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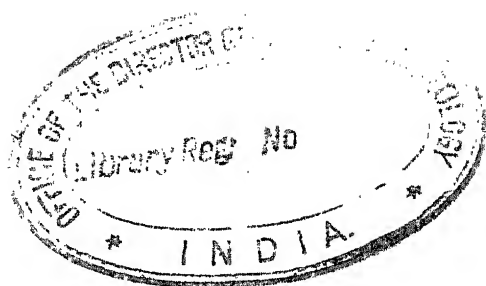
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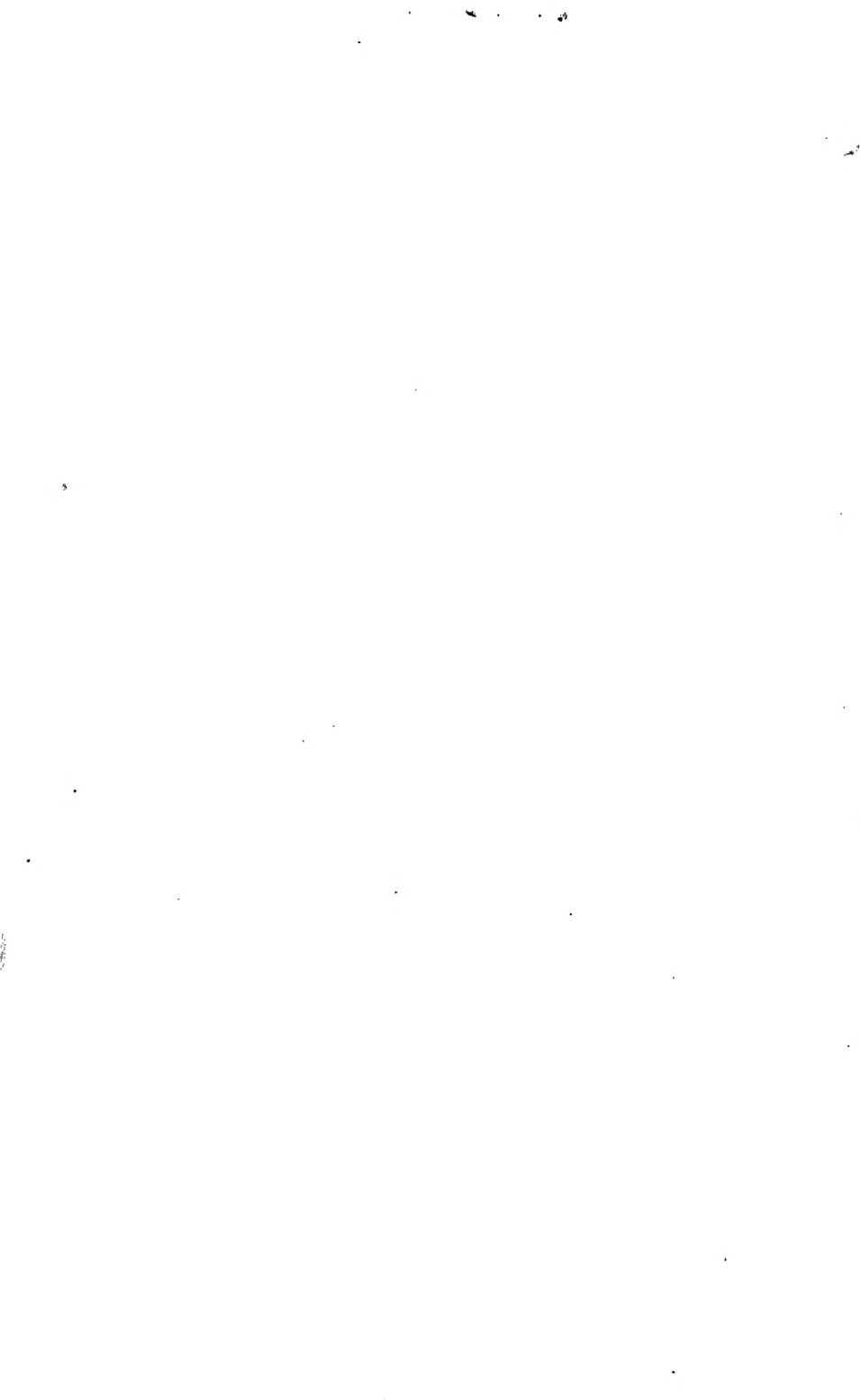
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ASIATIC SOCIETY OF JAPAN.

MINUTES OF THE MEETING.

A General Meeting of the Asiatic Society was held at the Parish Building, No. 54, Tsukiji, on Wednesday, March 11th, at 4 p.m. The President, Sir Ernest M. Satow, occupied the chair. After the minutes had been read and approved and various business announcements had been made, the President called upon the Secretary, Mr. Droppers, to read his lecture upon Some Old Japanese Economic Theories in the light of Modern Theories.

Mr. Droppers then read his lecture as follows.—

Mr. President and Gentlemen,—Every society, in proportion as it is civilized, is based upon some theory of human relations. The theoretical foundations are seldom understood by the ordinary observer and may be even invisible to any member of the society; yet they exist, and when the scientific interest is awakened they will be acknowledged. Physical environment indeed plays a not unimportant part in the development of society. Even accident and caprice have a certain influence on the destinies of nations as well as of individuals. But these are minor influences. What gives any society its properly distinctive character, what really changes the organization of society from time to time and affects the well being of its members, is the social theory that consciously or unconsciously affects the members of society. Rightly studied, the history of the nations of Europe and America is a continuous unfolding of various political and religious theories. Nearly every revolution during the last 1,000 years in Occidental nations was preceded by a well defined conflict of ideas, and the successful party invariably attempted to order society after its own theoretical conception of what a right society should be.

Nothing could be more interesting than the study of the social-economic theories of old Japan, especially during the Tokugawa period, and the structure of its society in the light of those

theories. But in order to carry out such an investigation thoroughly a very great amount of research is necessary. Care must be taken that representative writers only should be selected, as it often happens that acute thinkers are entirely out of harmony with their times and exercise little or no influence upon their contemporaries or successors. Of representative writers certain parts of their speculations are often useless for the same reason. The difficulties in the way of such an investigation have led me to postpone my inquiries into the social and political theories of ancient Japanese writers and to consider only speculations of the strictly economic theorists. It must be borne in mind, however, that no economic speculation, no matter how narrow conceived, can be entirely dissociated from social and political elements. The economic life of a nation is only a phase of its total life, and for this reason all investigation touching the wealth of a country must more or less bear upon the other forms of activity in society. Any severe separation therefore between the economic and the other social sciences must be held to be radically vicious and lead to barren results.

The ancient order of society in Japan is now pretty well understood. Outside of the noble ruling class, the people were divided into four main orders, of whom the highest was the *samurai*, the next farmers, the third artisans, and the lowest the merchant class. This order dates probably from the earliest beginning of Japanese civilization. It is in fact a necessary outcome of a feudal aristocracy, exclusive and living for the most part on the land. Each class was organized throughout quite rigidly into a caste. It was not permitted for anyone either to raise or degrade himself to another caste, and in general the son continued the occupation of his father, though this rule was not without its exceptions. While this system of society existed in a way from the earliest times, it was greatly perfected and organized by the early Tokugawa rulers: and accordingly we find it at no time so perfectly developed as in the most historical period of Japan. Whether this system of society ever caused hostile feelings or roused criticism, we do not know. Certainly such feelings and criticisms were never likely to see the light, as the Tokugawa Government took care that only those who favoured their particular form of government should get the ear of the public. But probably this order of society seemed perfectly natural and right to everyone, with perhaps a very rare exception at long intervals of time. Even in western countries sociological criticism has always been much rarer than political

criticism, and in Japan the former seldom arose because of the absolute want of intellectual contact with the outside world. For instance Dazai Shundai,—an economist who was born in 1680 and died in 1747,—makes a very strong argument against the principles of free industry. The caste system, he declares, is necessary to the safety of the state. "Agriculture," he says, "is the foundation of all other productivity. All classes are fed by the farmer. When artisans and merchants increase, they merely stimulate the luxury of the people because they produce useless commodities. As the labour of the farmer, however, is essentially disagreeable, farmers are generally anxious to get out of their kind of work. This must be strictly forbidden by law, else the production of the necessities of life will fall below the amount required."

At the present day such opinions strike most people as exceedingly primitive, but to anyone who is at all acquainted with the historical development of economics and economic theories in European countries, it need not be said that these ideas expressed by a Japanese economist in the 17th century were quite up to the times. Nothing is more astonishing to students of economics than the capacity of the average intelligent European or American to forget his own past. Take for instance the caste system. It existed for the great majority of people in the central and western states of Europe even at the beginning of the 19th century. In Germany, until the reforms of Stein in 1807, the great mass of the peasants were serfs, for whom there was no liberty of changing either their status or their occupation. As a rule no individual of any class could change his industry. And land was scarcely more transferable than it was in Japan. In England there were all sorts of prohibitory regulations in the early part of the century. Skilled artisans were forbidden to emigrate and the export of machinery was prohibited. The penalty for selling English wool abroad was death for the second offence. In fact the principles of free emigration or of free trade have never been recognized by any civilized country of modern times previous to the present century with very slight exceptions. It should serve to moderate our pride in Occidental economic theories, therefore, to remember that scarcely a century ago they were on very nearly a level with those of Japan.

In these later days the argument against all restrictive laws and legislation is based on the principle of free demand and supply. I know of no two words in the English language which are supposed to open greater stores of economic wisdom than demand and supply.

They are in everybody's mouth, yet my own experience is that few people who consider these words the "open sesame" of economic lore have anything but a vague idea of their meaning. Unrestricted demand and supply is defended to-day generally on the ground of the supposed economic harmony between the interests of the individual and society. Everyone is supposed to know his own business better than the state or society can know it for him. Hence if every individual consults his own interests, and there is free competition, there will be the most equitable distribution of commodities in society that we can realize in this faulty world of ours. The doctrine then of supply and demand is based on the freedom of the individual and the supposed desire of each to get as much as possible for as little exertion as possible.

As a matter of fact, however, self-interest and freedom are very insufficient forces to account for the modern distribution of wealth. The truth is that it was quite as natural for people in the 17th and 18th centuries in Japan to believe in restriction as for us to believe in freedom. In those days *laissez faire*, or what Adam Smith calls the "simple and obvious system of natural liberty," would not have done perhaps as well as the excessively restrictive measures of the age. In our own day, for instance, if there happens to be a short crop in any country, we can generally trust to private initiation for the importation of a sufficient amount from abroad, and accordingly famines are not likely to exist to-day in any civilized country. But this capacity to provide quickly and without much risk a foreign supply to make good a deficit at home itself depends on quick and cheap transportation, communication, and, to a certain extent, insurance. In the Japan of the 17th century transportation was comparatively costly and confined to local districts of the country. Hence they did not and could not believe in free competition as a regulator of demand and supply. On the contrary, the theory was that the Government was the proper regulator of demand and supply.

For instance, it was a rule that the Government of each daimyate should buy rice when it was cheap and sell it when the price was dear. The rule was honoured more in the breach than in the observance. Nevertheless it was practiced in some parts of the country. To-day I fancy few ideas are more dead than that governments should in this way regulate the supplies of the necessities of life. Some might even go so far as to say it would be acting contrary to the laws of Political Economy—not knowing exactly what they meant. But why it should contravene any

economic law that a government should store rice in times of plenty and disburse it in a time of scarcity, or why this should not be fulfilling the law of demand and supply as much as if individuals should do it on their own account, is what I cannot understand. A more approximate form of the truth is that there is a good system of regulation and a bad system of regulation. Two or three centuries ago there was in Europe so much useless, tyrannical, and uneconomical interference on the part of the government with the affairs of the people that a natural reaction arose and all interference was thought equally injurious. But that the new ideal of absolute freedom from every kind of regulation is as impracticable as the old senseless absolutism is proved by the fact that in England, where the theory of economic *laissez faire* has been more preached in the horn-books of political economy than anywhere else, there is to-day more legislative interference of a protective character in industry than perhaps in any other country of the world.

This leads me to the consideration of a most important distinction in economic theory, viz., whether economic interest can be identified with what is known as self-interest. I need not explain that modern political economy is founded on the principle of self-interest—not necessarily selfishness—but self-interest, that is, the interest of each one for himself with as much foresight as is possible and as much regard for the interest of others as is absolutely required. One of the reasons why the mercantile classes were despised in old Japan is precisely because they were supposed to work for their own interests, while the *Samurai* and governing classes were supposed to be free from this attribute. Many people who scoff at these ideas as antiquated probably forget that less than a hundred years ago the same point of view prevailed in Europe generally, at least in most of the countries of the continent. Even to-day the merchant class have a somewhat lower rank in the countries of Europe than the military and official class. Japan therefore was not behind other countries in the 17th century, but rather on a par with them. Yet I find one distinction in an old Japanese economist (Kumazawa Banzan, 1619-1691) which shows acumen. He says there is a difference between self-interest and economic interest. The former depends upon each one gaining as much as possible for himself whether this involves loss to others or not, but the economic interest, he declares advances the interest of each and all without proving a loss to anyone. This distinction has been made in the West in late years under a somewhat different name, viz., the social interest. As an example we may take the

post office. It is not primarily run for the sake of the revenue of the government, though many governments desire a revenue from it. Nor is the price of postage proportioned to the cost of carrying any particular letter. One letter is carried a long distance, another a short distance for the same charge. In brief, the post office is run on the social-economic principle, that of giving to society at large the fullest benefit of a certain important kind of communication with the slightest amount of expense. This principle was not generally or accurately understood in the feudal times of Japan, but that it was enunciated at all in a time when there was so little opportunity for its application compared with the present day is a great tribute to the acuteness of one economic writer. From another point of view, Ninomiya Santoku, the well-known Japanese reformer, may be said to have held a similar belief.

If a question were asked with what system of economic thought in Europe the old Japanese economic ideas had most similarity, the answer, it seems to me, would be the system of the Physiocrats. You are aware that the Physiocratic school started in France about the middle of the last century; Quesnay, the father of the system, published his first work about 1755 and he was followed by a large number of brilliant writers, the elder Mirabeau, Mercier de la Rivière, Turgot, and others. The fundamental doctrine of this system of economics was that all wealth originates in the land of a country. In the case of industry upon land, they declared nature coöperates with man, while in other industries man works without the assistance of nature. Accordingly, it is only in agricultural industry that we have a net product or rent, which is the measure of the assistance of nature. Thus agriculture, they said, was a productive industry, while manufactures and commerce were sterile, because there was no net surplus. Or, to put it another way, in manufactures the form of the commodity only is changed, in commerce it is transferred from place to another, while in agriculture there is a definite increase of commodities a real production by which the wealth of society is increased. From this fundamental idea of the productivity of land, and the sterility of manufactures and commerce, the physiocrats derived their celebrated canon of taxation, viz., *l'impôt unique ou territorial*, the single tax—a tax to be levied upon the land in proportion to its productivity. This tax was levied on the land owners, not to burden the agricultural population. On the contrary, the object of the physiocrats, was to introduce a reform on this very point. It was, however, in harmony with the physiocratic theory that all

taxes no matter how levied, inevitably terminated in the land and therefore all indirect taxes were only disguised land taxes, falling unequally it is true, but still terminating on the land. A single land tax was the only just form of taxation, because in this case the incidence of the tax could be clearly traced. It fell upon the owner of the net surplus—the only thing which really could bear a tax according to the Physiocrats. This theory of the French school did not, strictly speaking, originate in the middle of the 18th century, but it was scientifically developed then for the first time. The germ of the Physiocratic theory we find expressed in many writers before this time. Indeed Locke, who is often classed with the liberal mercantilists, also says that every tax terminates in the land.

Now I do not mean to say that in old Japan the economic theorists had any well defined scientific theory like the Physiocrats. The Physiocratic system of economics was one of the most clearly defined systems the world has ever seen, while in Japan there never was a clearly defined system indigenous to the country. It is in fact a very unusual phenomenon for any country to elaborate a definite system of thought which is distinguished by the name of a science. Even in Europe and America a science is developed only after years of difficult groping by many men of many nationalities. It is therefore almost impossible to hope that the Japanese, secluded from the world in their island-home, could have ever, unaided, constructed a system of economic thought. But so far as they went, in a somewhat vague and unsystemised form, they held a theory of economics broadly similar to that of the physiocrats. For instance, Dazai Shundai makes a distinction between agricultural products and the other forms of wealth. Moreover, the same writer declares that the land of a country is a source of wealth and all productivity finally depends upon the productiveness of the soil. A similar emphasis is laid upon the land by the Japanese economist, Sato Shinen (1773-1854). He declares that political economy is the science which studies the method of extracting useful products from the land. All the studies therefore that enlighten man in his efforts to secure a greater product from the soil—what we should call the technology of agriculture—are to him part of the science of economics. Again, just as Quesnay had a practical object in developing his science, viz., of enlarging the revenues of the Sovereign, so the Japanese economists constantly introduce as the most important part of their science those measures which increase the income of the lord. That every tax falls upon the

land was not only expressly stated by some economists of Japan, *e.g.* Dazai Shundai, but I suppose was regarded as too axiomatic to require demonstration. Accordingly, if taxes were paid out of the produce of the land, the only method of increasing the revenue of the Sovereign was to promote measures of agricultural improvement. In other words, the famous maxim of Quesnay, "*Pauvres paysans, pauvre royaume, pauvre royaume, pauvre roi,*" would have exactly expressed the economic ideas of the most enlightened Japanese economists. Possibly the truth contained in the maxim would have seemed so self-evident to them as hardly to excite notice.

For the same reason that physiocratic ideas prevailed so widely among the economists of old Japan, mercantile notions were conspicuous by their absence. The speculations of the Tokugawa period on the subject of money never went to any real depth, but so far as they went they were remarkably free from errors. For instance, Dazai Shundai in his work *Keizai Roku* states that "money does not have any utility as a commodity, but only because it is exchangeable for what people want." Likewise he was strongly opposed to any debasement of the coinage—a popular measure in his day which he condemned in most forcible language. He even went so far as to say that money should be perfectly pure, not perhaps recognizing the utility of a certain amount of alloy in gold and silver to preserve them better from loss by abrasion. In one of his chapters he lays it down as an historical fact that when an inferior coin was issued the good coin disappeared—proving that he had a definite conception of what is known Gresham's Law. He was the consistent enemy of all forms of paper money, as he affirmed that all money must possess intrinsic value. Of the laws regulating the value of paper money he seems to have had no definite perception, perhaps for the reason that he thought even the slightest issue of paper notes a form of dishonesty.

The absence of mercantile ideas in Old Japan does not seem to me difficult to explain. In Europe the popularity of mercantilism is attributable to the sudden development of international trade and the influx of treasure from the newly discovered American mines in the 16th century and the consequent prestige of Spain. The glamour that hung over Spain and the fabulous reports of her wealth and power had the effect of an illusion. All of the countries of Europe were attacked by a desire for treasure, and framed laws and fought battles for the balance of trade. But in Japan all these elements were wanting. She had no foreign trade of any import-

ance. She did not rely on foreign commerce to secure treasure, having gold and silver mines within the country in abundance for her own needs.

Furthermore, Japan was free from the necessity of securing large hoards of the precious metals in order to carry on wars with her neighbours. For centuries she lived in seclusion, and both in her external relations and in her internal affairs peace ruled as it never did in any other age or country.

Finally, it must be pointed out that in nearly all the country districts of Old Japan money transactions were carried on only to a very limited extent. The farmer paid his taxes in kind. The raw materials of the food and clothing of his family were raised on the immediate land and prepared within the household. The practice of barter was extremely common. It is therefore not difficult to understand why mercantile ideas never found lodgement in Japan. As Bagehot points out in one of his books, the very simplicity of the earlier stages of economic society is calculated to give to the people of those times clearer economic ideas in some respects than prevail in modern times. At present the complexity of economic phenomena produces errors that only the most careful scientific investigation can dispel. We see only the surface of the phenomena and are thus much more easily misled by them.

In regard to the scope of political economy the old Japanese writers took both a wider and narrower view than modern economists. Wider in the sense that they included many topics which would to-day be included under separate sciences, such as politics or technology, but narrow in the sense that they excluded some of the most important branches of distribution and exchange. On the deepest problem of political economy, viz., that of value, they seem scarcely to have touched at all. For instance, Sato Shinen defines the science of political economy as the science which treats of the production of material wealth from the land. He divides the subject into four parts. First, that which treats of the necessary preliminaries of production, the organization of society and qualifications of the sovereign, and the character of the people. Under this head he discusses the moral elements entering into the science. Second, he inquires into the natural resources of the country; the distribution of animal and vegetable life, and the extent of the mineral resources. Third, he investigated the special aids to production, such as communication, education, etc., and Fourth, measures of preservation, especially saving institutions, called *Giso*, said to have been invented by him. While this classification is not wholly

scientific, yet it does not lack useful elements which, had they been developed, might have led to fruitful results. One of the greatest misfortunes of the old economists in Japan was that they did not found a school which could develop and rectify scientific speculation. All systematic inquiry was lacking, and each man started anew, thus hampering very largely any organic progress of the science. Dazai Shundai, a prior economist, had even a more general conception of the science than Shinen. He defines political economy as follows: "The science that treats of government, and its relation to the people, or the best system of administering a country. The object of economic study is the refinement of the character of the people and of advancing civilization." In this definition the proper object of political economy in the modern sense of the term is almost lost sight of, and the production of wealth being only one of the objects of government, would hold a very subordinate place in the science of economies according to the ideas of old Japanese economists. What has been called the art or application of economic social principles to government and society seemed to them much more important than the mere explanation of economic phenomena.

And yet there was an important grain of truth in their point of view. What is called the orthodox or classical school of economics has too often sinned in conceiving that the ends of political economy were entirely served, if only it were shown, how under certain hypothetical conditions, say of free competition, self-interest, free contract, and a minimum of government (anarchy *plus* the police constable, as Carlyle has it) wealth were produced and distributed. From these so called economic laws certain deductions were made as to the best method of increasing the wealth of a nation, and then by another vault of reasoning the inference was drawn that these deductions were invariably correct and applicable. Now this whole structure of the supposed scientific system of economics rests on a very shaky basis. The foundation is entirely hypothetical, and scarcely an economist to-day would dare to say that it is otherwise or that it corresponds accurately with the conditions of life. Moreover, even if the preliminary hypothesis did correspond with fact, yet the conclusion, though true, might not be acceptable to us for practical purposes. We might indeed find the so-called laws of political economy highly useful and interesting, not however to follow implicitly but rather, to train our judgment or even if necessary to warn us as a danger signal. It does not follow because we know how to increase the wealth of a nation that we

at all times and places should seek to increase it. We may even at times demand that the perpetual desire for more wealth be moderated, or that other powers of a nation be strengthened at the expense of wealth. In substance, the difficulty under which the orthodox economists have laboured is this; they have not understood that man is by nature a variable, progressive or, if you wish, a moral individual. You cannot define man wholly as a wealth producing animal, because he constantly sacrifices wealth for other objects, better and worse, and therefore the whole idea of the narrow orthodox school of basing economic laws on certain rigid hypotheses is an emasculating process which can only redound to the injury of economics and society. It is important to note at this point that the greatest writers on political economy have never in fact confined themselves to the narrow point of view here described. Almost without expedition all the leaders of economic science, Adam Smith, Malthus, Jean Baptiste Say, even Ricardo discussed practical matters in their scientific books. John Stuart Mill in his great work on Political Economy goes out of his way to examine all sorts of questions not directly concerned with the increase or decrease of wealth; land tenure in various countries, the moral foundations of private property, poor laws, education, emigration, etc. But the disciples of the founders were men of a different stamp. They assumed a type of man devoted to the single object of accumulating as much wealth as possible at as little expense of effort and sacrifice as possible. Sometimes they would add that the desire of immediate wealth must be tempered by a certain amount of foresight, that is, immediate interests might be postponed to remoter interests, but further than this they rarely went. Now, compared with this view of economics, the indefinite and shifting view of the old Japanese economists seems to me preferable. Both are indeed wrong. The Japanese were hazy, but the orthodox Western economists were too often doctrinaire and ruthless. The real difficulty with the Japanese economists was that they never conceived of a definite economic point of view, and by this I do not mean the economic man of Western orthodoxy, but a real man with economic interests sometimes paramount but also sometimes subordinate to other interests. The Japanese economists never succeeded properly in giving economics a definite status in the social sciences, which is only another way of saying that they did not try to give any orderly thought to man's economic activity in relation to all his other social interests. They made scattering discoveries of value, but did not construct any fruitful or definite

system of thought. The orthodox Western system of economics is a skeleton of man, a beautiful machine, well knit together and pleasing to the scientific mind because of its consistency and articulation. The Japanese conception of economics may be compared to one of the artistic yet rudimentary sketches of man, so often seen in the popular Japanese picture books—a suggestion here and there but not a man.

What attracts one most in reading the speculations of the old Japanese economists is not so much their special theories of wealth or their doctrines of money as what they think is so self evident as not to need explanation. Their silence is more eloquent at times than their utterances. For in those days to affirm what may be called almost the popular truisms of to-day would have been the greatest heresy. One of the ruling ideas of old Japan was that to live for one's self was ignoble—and because the *Samurai* lived wholly and entirely devoid of any desire to advance his own interest in any economic sense he was honoured above other classes. Henry Finck in his preface to "Lotus Time in Japan," says; "I have tried to show that the Japanese have as much to teach us as we have to teach them, and that what they can offer us is, on the whole, of a higher and nobler order than what we can offer them. Japanese civilization is based on altruism, ours on egotism." If the preceding words were true I should be glad to defend the state of society and the social and economic ideas of the Old Japan against the competition theories of to-day. But it seems to me that Henry Finck exaggerates. True, the Japanese honoured loyalty above self-interest, and so far they had a moral ideal superior to ours, at least in our economic life. But it was a narrow loyalty—confined not only to a small locality, but to particular classes. The merchants and artisans were despised and down-trodden. It was not national and social. The Japanese, moreover, never rose to the idea of progressive amelioration in the old days—an idea that is worth more to us than any number of theories of greed and aggrandisement. In truth, our actual life is much better than our economic theories—while in Japan actual life was perhaps somewhat worse. As Ruskin points out, this is the first century in which we hold an economic theory of life absolutely and entirely inconsistent with our religious life. In economics it is each one for himself. The lust for gain is sanctioned by the most approved authorities—while our religious teachers preach the law of self-denial and interest in others. This is the source of our 19th century hypocrisy I suppose. Is there not danger that if we

continue on the same lines as at present we shall soon regard each other as the Roman augurs did ?

The old Japanese watchword was stability, and nothing more. And they thought that their form of society would last forever. How many attempts by other nations were made to open the country and to come into contact with the people during the Tokugawa régime ? But every attempt until the middle of our century was met by a stern refusal. In effect every envoy was told that Japan refused to admit strangers, because it was contrary to her ancient polity. From time immemorial, they were told, the state and society had been established on certain unalterable principles, that these principles were wise and good, and could not be improved, that under them the people were contented and peaceful, and foreigners entering the country would serve only to destroy the ancient perfection of the state. This, or something like this, would have been the reply to any attempt to open the country.

And this system, so ancient, so seemingly immutable, has utterly broken down and is scarcely more than a regretful memory in the minds of a new and eager generation. Public opinion in Japan to-day regards the ancient doctrine of exclusion as a huge mistake, and many believe that had Japan been open to trade and travel the spirit of enterprise and adventure that has always characterized the people would have grown fully as rapidly as in any Western nation.

The watchword of the West has been progress or amelioration rather than stability, and a noble watchword it is. It will take us far if we only truly study it and obey its rules. But is our present interpretation of it true ? Does it accept all the elements of our life that make for a really civilized society ? Will our present interpretation of social amelioration last ? Will the present striving for wealth and the heaping up of possessions remain for ever ? Will it be said of us that we used our highest intellectual efforts to swell our personal revenues even if thereby we robbed our neighbour of his daily bread ? Many there are who think so—who hope for ever to live under the savage rule of competition and thus evolve cheaper and more luxurious commodities until the world is sated. But the moral sense working in time tells us no. Our present social conditions would have been regarded with contempt by the ardent reformers who lived a hundred or more years ago, just as their conditions would have been despised by those who lived in the middle ages. Each era lives for itself and forgets the promises of the childhood.

A manuscript work, entitled the "Wonders of Nature," preserved in the Royal Library at Paris, by an Arabian writer, Mohammed Kazwini, who flourished in the seventh century of the Hegira, or at the close of the thirteenth century of our era. Besides several curious remarks on ærolites, earthquakes, and the successive changes of position which the land and sea have undergone, we meet with the following beautiful passage which is given as the narrative of Kidhz, an allegorical personage:—I passed one day by a very ancient and wonderfully populous city, and asked one of its inhabitants how long it had been founded. "It is indeed a mighty city," replied he; "We know not how long it has existed, and our ancestors were on this subject as ignorant as ourselves." Five centuries afterwards, as I passed by the same place, I could not perceive the slightest vestige of the city. I demanded of a peasant, who was gathering herbs upon its former site, how long it had been destroyed. "In sooth, a strange question!" replied he; "the ground here has never been different from what you now behold it."—"Was there not of old," said I, "a splendid city here?"—"Never," answered he, "so far as we have seen, and never did our fathers speak to us of any such." On my return there 500 years afterwards, I found the sea in the same place and on its shores were a party of fishermen of whom I inquired how long the land had been covered by the waters? "Is this a question," said they, "for a man like you?" "This spot has always been what it is now." I again returned 500 years afterwards and the sea had disappeared. I inquired of a man, who stood alone on the spot, how long ago this change had taken place, and he gave me the same answer as I had received before. Lastly, on coming back again after an equal lapse of time, I found there a flourishing city more populous and more rich in beautiful buildings than the city I had seen the first time, and when I would fain have informed myself concerning its origin, the inhabitants answered me, "Its rise is lost in remote antiquity; we are ignorant how long it has existed, and our fathers were on this subject as ignorant as ourselves."

At the close of the lecture the Chairman stated that the subject was one of great interest in many ways, and hoped that a full discussion might be given to it. The question of the influence of altruistic moves in the economic life of a people was just present before the public, and he would like to have expressions of opinion on this point.

Mr. J. Carey Hall spoke at length, giving an excellent account of the rise and decline of the so-called orthodox English school of economics. He contended that it had been scientifically demonstrated that altruistic motives were as much a part of human nature as the selfish ones. He thought Adam Smith and John Stuart Mill comparatively free from the vices of the orthodox economists, but he did not agree with the statement of the lecturer that Ricardo was free from blame. Ricardo, Malthus, Senior, Fawcett, and Jevons had all contributed to this economic narrowness. But as foretold by Auguste Comte, many years before, the school had declined, and the historian of Political Economy in the new Edition of the "Cyclopedia Britannica" was Mr. J. K. Ingram, a strong opponent of the old egotistic school of economics.

The Rev. T. S. Tyng stated that the lecturer had used the phrase "economic point of view" and he thought that meant that you could separate the economic man from the religious or moral or political man. He thought the old economists studied man as they found him not as they would like him to be. They studied the real forces and best conditions of the production and distribution of wealth, and he thought this the right way rather than to mix up economic interests with morals, religion, etc. He felt certain that hunger and poverty were the great incentives to the production of wealth, and if this stimulus were taken away society would relapse into misery and poverty.

Rev. C. E. Garst spoke of the origin of the tax on agricultural land in Japan. He showed that it was a great mistake of the feudal period in Japan to tax only agricultural land, and not all land that had value. In the United States it was estimated that the value of agricultural land was only one-tenth of the total land value of the country. He explained the indifference of the *samurai* and ruling classes of Old Japan to money matters because they lived on the wealth produced by others. They were a species of parasites.

Mr. Clay MacCauley said that he thought the best test of the value of old Japanese theories and modern theories of economics was to be found in their results. The wealth of Europe and America as compared with Japan was an answer to which was the better system. He did not say that free competition was an ideal theory, but it had been an enormous force in developing the wealth of the West.

The President called upon the lecturer to make some concluding remarks.

Mr. Droppers said that substantially he agreed with the remarks of Mr. Hall. He did not wish to exonerate Ricardo from all blame, but he did not believe that Ricardo was as bad as some of his successors in limiting economic interests of man to purely selfish motives. He further expressed his strong disagreement with the views advanced by Mr. Tyng. The latter had used the phrase the "*best conditions of producing and distributing wealth.*" That was precisely the question under discussion. What were the "*best conditions?*" It was impossible to conceive of the conditions of wealth without introducing the moral qualities and social relations of man. It was equally impossible to speak of the "*actual man*" of the economic world because there were all classes of men, and man was not a being with unchangeable attributes, but was of a progressive character. The question was what kind of conditions or what kind of man did Mr. Tyng select. Mr. Garst's contention that the *Samurai* and noble classes in Old Japan were indifferent to money matters because they were unproductive—living on the wealth produced by others—Mr. Droppers did not wholly agree with. The *Samurai* were no more unproductive than any other body of similar men in the West, *e.g.* the standing armies of European countries.

The President thanked the lecturer for his paper and declared the meeting adjourned.

A General Meeting of the Asiatic Society was held in the Parish Building, No. 54, Tsukiji, on Wednesday, April 8th, at 4 p.m. The Vice-President, Rev. D. C. Greene, occupied the Chair. After the preliminary business of the meeting was settled, Dr. Greene called upon Mr. E. W. Clement to read his paper on "*Chinese Refugees of the 17th Century in Mito.*"

At the close of the reading the Chairman called upon the members for expressions of opinion on the various points of the paper.

Mr. Lloyd stated that the name of Ingen was mentioned in the paper, as one of the Chinese refugees. He explained that Ingen had established a sub-sect of the Zen, called the Obaku sect. He went to Kyōto, where he founded a temple in which contemplative tenets of the Zen were upheld, with, however, certain differences. The priests of this sub-sect still wore certain Chinese articles of apparel and retained certain Chinese customs.

Sir Ernest Satow stated that this temple was situated between Fushimi and Uji. It was a fine temple and in good condition when he last saw it. The priests wore the Chinese hat and shoes, but such as were worn in the Court.

Dr. D. C. Greene, on rising, said—The subject which Professor Clement has treated in his very interesting paper certainly deserved a place in the transactions of this Society. The opinion is widely prevalent among Japanese scholars that these refugees from China did make a material contribution to the Imperialist movement with which the House of Mito has been identified. They were clearly men of great weight of character. This is evinced by the impression which they made upon the Japanese associated with them and the cheerful recognition of the value of their services. It was no small token of respect, for example, that one of them should have been asked to write the famous epitaph of Kusunoki Masashige to be seen on the monument near the Minatogawa in Hiogo. The essayist has called attention to other services, not necessarily important in themselves, but noteworthy because they help us to understand the position which these exiles had won in the land of their adoption. It certainly was a most honourable position. Still current opinion regarding the part they played in preparing for the Restoration of 1868, as well as with regard to the Imperialist movement itself, is based upon a view of that movement which later and more impartial students will hardly be able to accept. That the work of the House of Mito was of great importance cannot be doubted, but it is by no means certain that it would have been successful had not the opening of the country to foreign intercourse served to develop a new type of patriotism and a keener sense of the necessity of national unity. It may further be questioned whether the men who stood forth, in the struggles immediately preceding the Restoration, as the leaders of popular opinion were at heart friendly to the movement which they professed to represent; whether the goal they set before themselves was really the Restoration of the Imperial House. A Japanese scholar, a profound student of the Pure Shintō, many years ago compared the southern prince to a man, vain of his horsemanship, who finding himself mounted upon an untruly steed after fruitless efforts to assert his lordship, finally yields to the inevitable and pretends that he is really guiding his bolting charge along his chosen path. In other words, they sought to use the work and the influence of the apostles of the Pure Shintō to serve their own ambitious schemes. They found, however, not, I am persuaded,

that these apostles were too strong for them, but that the exigencies of foreign intercourse had set in motion a new system of influences making for unity which no prince nor coalition of princes could dominate. But for foreign intercourse, the outcome of the struggle would probably have been a new Shōgunate. However, discount as we may the popular estimate of the work of the Prince of Mito, we can but appreciate the efforts which Prof. Clement has made to gather up the meagre stock of information now accessible regarding certain of their noted coadjutors. I am sure I represent the feelings of all present when I extend to him the thanks of the Society for his valuable paper.

A Special General Meeting of the Asiatic Society was held in the Parish Building, No. 54, Tsukiji, on Wednesday, April 28th, at 4 p.m. The Vice-President, Rev. D. C. Greene, occupied the chair, in the unavoidable absence of Sir E. Satow, the President. After the preliminary business of the meeting was settled, the Chairman called upon the Rev. John Batchelor, F.R.G.S., to read his paper on "Ainu Words, as illustrative of Customs, and Matters Pathological, Psychological and Religious."

Mr. J. C. Hall complimented the reader on his paper, which, he said, bore out M. Comte's Law of Intellectual Evolution, according to which the development of the human mind went from the theological stage to the metaphysical, and from that to the scientific, the first, or theological stage being again subdivided into fetichism, polytheism, and monotheism. Spencer, it is well known, combated this position of Comte's, but the facts brought forward in Mr. Batchelor's paper were, he was glad to say, very strongly in favour of Comte's theory.

Mr. Batchelor having replied to one or two points in Mr. Hall's remarks, the Chairman thanked Mr. Batchelor for his able and interesting paper, and the meeting was dissolved.

A General Meeting of the Asiatic Society was held at the Parish Building, No. 54, Tsukiji, on Wednesday, May 27th, at 4 p.m. In the absence of the President and Vice-President Dr. Divers occupied the chair.

After the minutes were read and other business transacted, the Chairman called upon Mr. Jas. W. Davidson to read his paper on Formosa.

Dr. Diver, after thanking Mr. Davidson on behalf of the Society for his lecture, stated that the meeting was open to discussion.

Mr. Mason said that he had been told that the climate of Formosa was very bad. All foreigners without except were subject to fever. He would like to inquire whether Mr. Davidson's experience corroborated this.

Mr. Davidson said that while the climate was bad in some parts, particularly the north, he did not think it was equally so in other parts of the Island. He himself had never been subject to any fever.

In answer to Bishop McKim, who inquired what the foreign population of the Island was, Mr. Davidson said that in ordinary time there were not over twenty five in the Island. At certain seasons, however, when the tea and other products were exported, the numbers increased, say to fifty or sixty. He stated further that the emigration of Japanese so far had been very small. The Japanese coolies were of a very undesirable character and bore a bad reputation. So far, there were only officials, workmen employed by the Government, and a few agents of commercial companies.

Dr. Divers inquired about the food of the aborigines. In answer Mr. Davidson said that they lived largely by hunting and fishing. They also ate rice, which partly they raised themselves and partly obtained by trading with the Chinese. They obtained the means of payment from the rent of camphor trees and from bringing drugs to market. The aborigines hated the Chinese, and were in general well disposed to the Japanese.

In reply to a further question, Mr. Davidson said the best time to visit Formosa was the fall, during October, November and part of December. In the last month the rainy season began. In the South he thought the rainy season not so bad.

When further questioned as to the aborigines, he said it was possible to visit them, but dangerous, because the Hakas, would be likely to interfere. The highest mountain is higher than Fuji, and the average height of the mountains, which are on the East, is 8,000 or 9,000 feet. The cliffs on the East coast are extremely precipitous and some times rise sheer to the height of 5,000 feet. The resources of the Island, he explained, are mainly coal, iron, and gold. The last article is probably abundant.

The meeting adjourned at 5.15 p.m.

At the November Meeting of the Asiatic Society of Japan, held in Tōkyō, a paper on the "Influence of the Greco-Persian Art upon Japanese Arts," was read by Rev. Isaac Dooman. The paper was too long to be read entirely at the meeting and the author made only brief extracts with comments.

A general discussion followed the reading of the paper. Mr. Tyng questioned whether the later art of Japan was merely a degenerate form of the earlier art. In the later art we find landscape, with man fighting in it in a subordinate way, while this was not so in the earlier art. We might say that one was different from the other, though not necessarily degenerate.

Mr. Droppers thought the writer of the paper laid too much stress upon climate as a factor in influencing religious ideas. He believed that it was a relatively feeble and unimportant element. Witness the contrary and entirely inconsistent beliefs held in the same country, of which it could not be said that the climate had varied. Religion was much more a matter of race than climate. He thought that Herbert Spencer, Buckle, Taine, and others had vastly overrated the effect of climate on race and religion.

Mr. Lloyd remarked that an interesting comparison might be made of the development of art in Japan with that in Greece. Both countries had received their first artistic impulses from without. This impulse came in the one case through India, in the other case through Egypt, but it was evidently the same in origin. Both in India and in Egypt art was colossal, and the great end of art seemed to be to represent the body at rest. Both countries then set themselves to work first to surpass their teachers and then in process of time to discard them. The transition was from the representation of the body at rest to the representation of the body in active life. This might be illustrated by a reference to Greek literature:—Æschylus, who was colossal in his thoughts and style, represented men as they could not be; Sophocles came a step lower and represented men as they ought to be; Euripides came down still further and painted men as they are. Greek tragedy gained in interest as it came nearer to real life. The reader of the paper had said something about the diminutiveness of the later Japanese art. It must have been the same with the Greek painters. The well-known story preserved by Cicero, of the contest between two artists, one of whom produced a picture of a bunch of grapes so cleverly that it deceived some birds, while the other deceived men by a fly painted on a curtain, shows that they must have painted small subjects with great attention paid to minutiae. The

element of humour was also to be found in the Greek and Roman art as in the Japanese. Even the gods were caricatured, as can be seen from Horace and from the early Christian apologists.

Mr. Dooman made brief replies to his critics, whereupon the meeting adjourned.

ANNUAL MEETING.

A General Meeting of the Asiatic Society was held on Wednesday, December 9th, at 4 p.m., in the Parish Building, No. 54, Tsukiji, Tōkyō.

The President, Sir Ernest M. Satow, occupied the chair. As this meeting was the Regular Annual Meeting for the election of officers and the presentation of reports from the Council to the members, the preliminary business occupied the first attention of the Society. After the minutes of the preceding meeting were read and approved, the Chairman called upon the Secretary to read the annual report submitted by the Council. The Secretary read the following report:—

“There is nothing of special importance to record in the annual report of the present session of the Asiatic Society. There is neither extraordinary progress, or any striking failure to note. In point of membership the Society has gained thirteen ordinary members and three life members. An old and esteemed member, Mr. J. J. Enslie, H.B.M. Consul at Kobe, died last June. One member returning to America has resigned.

“The average number of contributions have been made to the Transactions of the Society. In all, five papers were read and will soon be printed in a new volume of the Society's Transactions. One lecture was given to the members in March.

“Considerable progress has been made, in spite of many difficulties in the work of arranging and classifying the library of the Society. The precise number of Transactions in stock is known and the work of cataloguing the books is progressing steadily. It will not be long before the library is in working order. The Librarian reports a total number of 10,187 copies of the Transactions in stock, besides 1,682 copies of the Index.

“The finances of the Society, while showing no increase, at the same time are not running backward. The Treasurer's account shows a final balance of yen 2,144.645 for the present year.

"As several papers of interest are promised for the coming year, there is good reason for believing that the work of the Society will show no falling off either in the number or character of its publications."

After this report was adopted the election of officers and a new Council for the coming year was held. The outgoing Council submitted a list of names for election, which was adopted by the members. The names are as follows:—

President—Sir Ernest M. Satow, K.C.M.G.

Vice-Presidents—Rev. D. C. Greene, D.D., and James Troup, Esq.

Corresponding Secretary—Garrett Droppers, Esq.

Recording Secretaries—Garrett Droppers, Esq. (Tōkyō), and W. J. Shaud, Esq. (Yokohama).

Treasurer—J. McD. Gardiner, Esq.

Librarian—E. W. Clement, Esq.

Councillors—Dr. E. Divers, F.R.S., B. H. Chamberlain, Esq., W. B. Mason, Esq., R. Masujima, Esq., Olay MacCauley, Esq., M. Michel Revon., J. H. Gubbins, Esq., Rev. T. S. Tyng, Rev. W. J. White, and Rev. A. Lloyd.

This completed the business of the annual meeting. The President then called upon the Rev. Arthur Lloyd for his paper on Nasu-no Yumoto.

The President, in behalf of the members, expressed his thanks to Mr. Lloyd for the paper. He pointed out that the battle mentioned in the paper had taken place not in 1867 but in 1863, as those who were in Japan at that time could well remember. One of the chief points of interest in Nasuno he related was the ghost-stone or death-stone, which, however, since the Meiji era seemed to have lost its efficacy.

Mr. Mason made further interesting remarks about this stone. Three years ago, he said, the stone still possessed certain fatal properties according to the opinion of the tea-house keeper of the place.

A general discussion arose as to ancient and modern charges made at tea-houses. The prices mentioned in the paper seemed absurdly low according to modern standards. Mr. Tyng and Mr. Dooman gave instances of how very low certain charges for lodging and food at a tea-house might be, and again how sometimes foreigners might be overcharged. It was pointed out that these instances were not to be depended on for purposes of comparison, since they omitted the *chadai*, which was often, if not generally in certain cases larger than the charge itself. It was remarked

that Japanese officials commonly paid a *chadai* of a dollar for a night's stay, while very wealthy men or Ministers of State were presented with no account at all, but paid as they thought proper.

Some further discussion as to the meaning of the watchmen who go about at night, especially in the vicinity of tea-houses, arose, after which the President, again thanking the reader of the paper, called upon the Secretary to read certain changes which the Council wished to introduce into the Constitution of the Society.

The Secretary stated that the Council proposed the following alterations :—

Constitution, Art. VI, par. I, 2nd sentence: Omit words "or a life composition of sixteen dollars gold or three guineas." In place of par. 3, substitute the following paragraph:—

Ordinary members resident in Japan may become life members :—

- a. On election by paying the entrance fee and the sum of fifty silver *yen* (dollars);
- b. At any time afterwards within a period of twenty years by paying the sum of fifty silver *yen* (dollars), less *yen* 2.50 for each year of membership;
- c. After the expiration of twenty years on application to the Treasurer without further payment.

Ordinary members not resident in Japan may become life members :—

- a. On election by paying the entrance fee and the sum of thirty silver *yen* (dollars);
- b. At any time afterwards within a period of twenty years by paying the sum of thirty *yen* (dollars), less *yen* 1.50 for each year of membership;
- c. After the expiration of twenty years on application to the Treasurer without further payment.

Insert after Par. 3 the following additional paragraph :—

"Members hitherto resident in Japan who leave it with the intention of residing permanently abroad shall for the purpose of their subsequent subscriptions, or life-membership, be regarded as members not resident in Japan, provided the Treasurer is notified of their change of residence."

As, according to the Constitution, all amendment or proposed changes to the Constitution must lie over for one meeting, the Secretary gave notice that these alterations would be introduced at the next general meeting.

The President declared the meeting adjourned at 5.30 p.m.

APPENDIX A.

List of Papers, etc., during the Session of 1896.

"Contributions to a Bibliography of Luchu," by Basil Hall Chamberlain.

"Economic Theories of Old Japan,"—a Lecture, by Garrett Droppers, Esq.

"Chinese Refugees of the 17th Century in Mito," by E. W. Clement, Esq.

"Ainu Words as illustrative of Ainu Customs," by Rev. John Batchelor.

"An Account of Formosa," by Jas. W. Davidson, Esq.

"The Influence of Greco-Persian Art upon Japanese Arts," by Rev. Isaac Dooman.

"*Nasu no Yumoto*,"—an Old Japanese Inn, by Rev. Arthur Lloyd.

APPENDIX B.

THE HON. TREASURER IN ACCOUNT WITH THE ASIATIC SOCIETY OF
JAPAN FOR THE THIRTEEN MONTHS ENDING DEC. 9TH, 1896.

DR.

To Balance from Last Year	2,358.448
" Entrance Fees	55.000
" Annual Subscriptions	298.430
" Life Subscriptions	207.480
" Sale of Transactions:	
Messrs. Kegan Paul, Trench, Trübner & Co.	216.550
" Kelly & Walsh	119.850
Librarians	27.180
Treasurer	40.000
	<hr/>
	403.580
" Interest on Fixed Deposit	114.250
Current Account	5.382
	<hr/>
	119.582
	<hr/>
Total.. .. .	3,442.520

CR.

By Messrs. Meiklejohn & Co. for Printing.. .. .	743.580	
" Cash for Illustrations, Mr. Clement's Paper.. .. .	32.000	
" " paid for Stationary, Postage, etc.	77.730	
" " Library Expenses, Cataloguing, etc.	92.600	
" " Removal of Library and Fitting up New Room..	116.965	
" Rent No. 17, Tsukiji, for half-year	50.000	
" " 54, " " one year	100.000	
" " Public Hall, Yokohama, for lecture (Feb. 27th, 1895)	10.000	160.000
" Insurance	1,297.875	75.000
" Balance, M. B. G. K. Special Cur. Act. ...	1,950.000	
" " Cur. Act. ..	80.765	
H. K. & S. Bank Cur. Act. ..	78.500	
Cash	35.380	2,144.645
Total		3,442.520

E. & O. E.

J. McD. GARDINER,

Hon. Treas.

Examined and Compared with Vouchers and found correct.

T. S. TYNG.

E. W. CLEMENT.

Auditors.

Dec. 9th, 1896.

APPENDIX C.

LIST OF EXCHANGES OF THE ASIATIC SOCIETY OF JAPAN.

Academy of Sciences, Lincoln Park, Chicago.

American Geographical Society, New York.

" Oriental Society, New Haven, Conn.

" Philological Society, Boston, Mass.

" Philosophical Society, Philadelphia, Pa.

Anthropological Institute of Great Britain and Ireland.

- Anthropologische Gesellschaft in Wien, Austria.
 Asiatic Society of Bengal, Calcutta.
 Australian Association for the Advancement of Science, Sydney.
 Bataviasch Genootschap, Notulen.
 Buddhist Text Society. Calcutta.
 Bureau of Ethnology, Washington, D.C.
 Bureau of Education, " "
 Canadian Institute, Toronto.
 China Review, Hongkong.
 Chinese Recorder, Shanghai.
 Cosmos de Guido Cora, Torino.
 Deutsche Gesellschaft für Natur und Volkerkunde Ostasiens, Tōkyō.
 Geological and Natural History Survey of Canada.
 Harvard University, Museum of Comparative Zoölogy, Cambridge,
 Mass.
 Imperial Russian Geographical Society, St. Petersburg.
 Imperial University of Japan, Tōkyō.
 Japan Society, London.
 Japan Weekly Mail, Tōkyō.
 Johns Hopkins University Publications, Baltimore, Md.
 Journal Asiatique, Paris.
 Musée Guimet, Lyons.
 Pekin Oriental Society, Pekin.
 Royal Asiatic Society of Great Britain, London.
 " " " Bombay Branch.
 " " " Ceylon Branch, Colombo.
 " " " China Branch, Shanghai.
 " " " Straits Branch, Singapore.
 Royal Dublin Society, Kildare St., Dublin.
 Royal Geographical Society, London.
 Royal Society, London.
 " " of Edinburgh, Edinburgh, Scotland.
 " " Sydney, New South Wales.
 " " Adelaide, South Australia.
 Smithsonian Institute, Washington, D.C.
 Sociedad Geografica de Madrid, Madrid.
 Sociedad de Geographia de Lisbon, Lisbon.
 Société d'Anthropologie Paris.
 Société de Geographie, Paris.
 United States Geological Survey, Washington, D.C.
 " " Department of Agriculture, Washington, D.C.
 Vereins für Erdkunde zu Leipzig.

APPENDIX D.

TRANSACTIONS IN STOCK.

December 2, 1896.

Vol. I	single part	..	..	..	..	..	..	..	117
" II	single part	..	..	..	..	..	..	..	97
" III	Part 1	..	..	..	..	..	..	..	152
" "	" 2	..	..	..	..	..	..	..	203
	Appendix	..	..	..	..	..	..	..	88
" IV	single part	203
Vol. V	part 1	208
" "	" 2	221
" VI	" 1	203
" "	" 2	245
" "	" 3	252
" VII	" 1	237
" "	" 2	239
" "	" 3	265
" "	" 4	249
" VIII	" 1	45
" "	" 2	59
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" "	" 4	71
" IX	" 1	42
" "	" 2	86
" "	" 3	78
" X	" 1	74
" "	" 2	88
" "	Supplement	197
" XI	Part 1	106
" "	" 2	78
" XII	" 1	284
" "	" 2	115
" "	" 3	108
" "	" 4	..	..	..	..	..	..	..	56
" XIII	" 1	..	..	..	..	..	..	..	83
" "	" 2	..	..	..	..	..	..	..	120
" XIV	" 1	..	..	..	..	..	..	..	87
" "	" 2	..	..	..	..	..	..	..	111
" XV	" 1	..	..	..	..	..	..	..	95
" "	" 2	..	..	..	..	..	..	..	119

LIST OF MEMBERS.

HONORARY MEMBERS.

- Alcock, K.C.B., Sir Rutherford, Athenæum Club, London, England.
Arnold, K.C.S.I., Sir Edwin, Daily Telegraph Office, London, England.
Aston, C.M.G., W. G., The Bluff, Beer, E. Devon, England.
Day, Prof. Geo. E., Yale College, New Haven, Conn., U.S.A.
Edkins, D.D., Rev. Joseph, Shanghai.
Franks, Sir Wollaston, British Museum, London.
Hannen, Sir N., H. B. M. Consul General, Shanghai.
Hepburn, M.D., L.L.D., J. C., 384, William Street, East Orange, New Jersey, U.S.A.
Nordensjöld, Baron A., Stockholm, Sweden.
Powell, Major J. W., Smithsonian Institute, Washington, D. C., U.S.A.
Rein, Pro. J. J., Bonn-am-Rhein, Germany.
Satow, K.C.G.M., Sir Ernest M., British Legation, Tōkyō.
-

LIFE MEMBERS.

- Alexander, R. P., Eiwa Gakko, Aoyama, Tōkyō.
Amerman, D.D., Rev. James, L., 25 East 22nd St., New York, U.S.A.
Anderson, F.R.C.S., W., 2, Harley Street, Cavendish Square, London.
Arrivet, J. B., 133, Haramachi, Koishikawa, Tōkyō.
Atkinson, R.Sc., R. W., 44, London Sq., Cardiff, Wales.
Bigelow, Dr. W. S., Boston, Mass., U.S.A.
Bisset, F.L.S., J., c/o Messrs. A. J. Macpherson & Co., 5, East India Avenue, London, E. C., England.

- Blanchet, Rev. C. T., Philmont, N.Y., U.S.A.
Booth, Rev. E. S., 178, Bluff, Yokohama.
Brauns, Professor Dr. D., Halle University, Germany.
Brinkley, R.A., Capt. F., 15, Nagata-cho, Nichome, Tōkyō.
Brown, Capt. A. W., Central Chambers, 109, Hope Street, Glasgow.
Cary, Rev. Otis, Karasumaru, Kyōto.
Carsen, T. G., Bannfield, Coleraine, Ireland.
Center, Alex., Pacific Mail Office, San Francisco.
Chamberlain, B. H., 19, Daimachi, Akasaka, Tōkyō.
Cheon, A., Hanoi, Tonkin.
Clarke-Thornhill, T. B., Ruston Hall, Kettering, Northamptonshire.
Clement, E. W., 43, Tsukiji, Tōkyō.
Conder, J., 13, Nishi Konya-cho, Kyōbashi, Tōkyō.
Cooper, L.L.D., C. J., Hampton Lodge, Stourton near Stourbridge, Staffordshire, England.
Dautremer, J. Hankow, China.
Deas, F. W., 12, Magdala Place, Edinburgh.
De Bunsen, M., Abbey Lodge, Regent's Park, London.
Dickins, F. V., University of London, Burlington Gardens, London, W.
Dillon, E., 13, Upper Phillimore Gardens, Kensington, London, S.W.
Divers, M.D., F.R.S., Edward, Hongo, Tōkyō.
Dixon, F.R.S.E., J. M., 5886, Von Verein Ave., St. Louis, Mo., U.S.A.
Dixon, M.A., Rev. William Gray, Warrnambool, Victoria, Australia.
Duer, Y., 16, Gochome, Hirakawa-cho, Kojimachi, Tōkyō.
Du Bois, M.D., Francis, 27, Rue de la Lépinrière, Paris.
Eaves, Rev. Geo., Poste Restante, Denver, Colorado.
Eby, D.D., Rev. C. S., Canadian Methodist Mission, Toronto, Canada.
Fearing, D., Newport, Rhode Island, U. S. A.
Flemmich, O. C., Alton House, Roehampton, England.
Fraser, J. A., 216, Yokohama.
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- Hall, Frank, Elmira, Chemung Co., N. Y., U. S. A.
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Wight, England.
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- Serrurier, Dr. L., Batavia, Java.
- Shand, W. J. S., 4-B, Yokohama.
- Shaw, Ven. Archdeacon, Tōkyō.
- Shortall, J. G., 108, Dearborn St., Chicago, U.S.A.
- Spencer, Rev. J. O., Aoyama, Tōkyō.
- Stephenson, M.D., U.S.N., A.A.S., etc., F. B., U. S. Navy Yard,
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- Stokes, J., 49, Cedar st., New York.
- Stone, W. H., 3, Aoi-cho, Akasaka, Tōkyō.
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- Walsh, T., 70, Kobe.
- Warren, Ven. Archdeacon, 2, Concession, Osaka.
- Whitney, M.D., Willis Norton, 3 Aoi-chō, Tōkyō.
- Wigmore, J. H., Evanston, Ill., U.S.A.
- Wilson, J. A., Hakodate.
- Winstanley, A., 50, Yokohama.
- Wollant, G. de, Russian Legation, Washington, U.S.N.

ORDINARY MEMBERS.

- Andrew, Rev. Walter, Hakodate.
- Awdry, Rt. Rev. W., Kobe.
- Baelz, M.D., E., 7, Nagata-cho, Nichome, Tōkyō.
- Barber, Commander F. M., Nagata-cho, Tōkyō.
- Batchelor, Rev. J., Sapporo.
- Bickersteth, Rt. Rev. Bishop, 11, Sakae-chō, Shiba, Tōkyō.
- Birkelund, Rev. J. R., 17, Hikawa-cho, Akasaka, Tōkyō.

- Bonsal, S., American Legation, Tōkyō.
 Brandram, Rev. J. B., Kumamoto.
 Brown, Matthew, 6, Yokohama.
 Buckley, Dr. E., University of Chicago, Chicago, Illinois, U.S.A.
 Burton, W. K., 7, Nagata-chō, Tōkyō.
 Cochran, D.D., Rev. G., Los Angeles, Cal., U.S.A.
 Cornes, F. H., 50, Yokohama.
 Coudenhove, Count Henry, Austrian Legation, Tōkyō.
 Courant, E., French Consulate, Tientsin, China.
 Cruickshank, W. J., Mourilyan, Heimann & Co., 35, Yokohama.
 D'Anethan, Baron, Belgian Legation, Nagata-cho, Tōkyō.
 Davidson, Jas. W., Formosa.
 Davis, Rev. John, 53, Tsukiji, Tōkyō.
 Dearing, Rev. J. L., 67-A, Bluff, Yokohama.
 De Forest, D.D., Rev. J. H., Sendai.
 Dening, W., Sendai.
 Dooman, Rev. L., 18, Tsukiji, Tōkyō.
 Droppers, Garrett, 71, Isarago, Shiba, Tōkyō.
 Dumelin, A., 90-A, Yokohama.
 Evington, Rt. Rev. H., Nagasaki.
 Favre-Braudt, J., 145, Bluff, Yokohama.
 Florenz, Dr. Karl, Imperial University, Tōkyō.
 Francis, Rev. J. M., 54, Tsukiji, Tōkyō.
 Gardiner, J. McD., 40, Tsukiji, Tōkyō.
 Griffiths, E. A., British Consulate, Kōbe.
 Guy, Rev. H. H., 54, Dairokutenchō, Koishikawa, Tōkyō.
 Herod, J. R., American Legation, Tōkyō.
 House, E. H., 20 Gochome, Hirakawa-chō, Kojimachi, Tōkyō.
 Irwin, R. W., Hawaiian Legation, 7, Tsuna-machi, Mita, Shiba,
 Tōkyō.
 Isawa, S., 50, Dairokuten-chō, Koishikawa, Tōkyō.
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 Leavitt, Rev. E., 32, Tsukiji, Tōkyō.
 Lloyd, Rev. A., Mita, Nichome, Tōkyō.
 Lönnholm, Dr. J., 8, Kaga Yashiki, Tōkyō.

- Lowder, J. F., 28, Yokohama.
Lowther Gerard, British Legation, Tōkyō.
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Münzinger, Rev. K., 39, Kami Tomizaka, Tōkyō.
Paget, R. S., British Legation, Tōkyō.
Parlett, H. G., British Legation, Tōkyō.
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Sands, W. F., American Legation, Tōkyō.
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Seherer, Rev. J. A. B., Saga, Hizen.
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Walter, W. B., 1, Yokohama.
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Weston, Rev. Walter, c/o Rev. C. G. Gardner, Kobe.
Wickersham, J., Tacoma, Wash., U.S.A.
Wier, Rev. J., Eiwa Gakko, Aoyama, Tōkyō.
White, Rev. W. J., 6, Tsukiji, Tōkyō.
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Wilkinson, H. S., British Consulate, Tōkyō.
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THE
CONSTITUTION AND BY-LAWS
OF THE
ASIATIC SOCIETY OF JAPAN.

Revised December 4th, 1895.

THE CONSTITUTION OF THE ASIATIC SOCIETY OF JAPAN.

Revised December 4th, 1895.

NAME AND OBJECTS.

- ART. I. The name of the Society shall be THE ASIATIC SOCIETY OF JAPAN.
- ART. II. The object of the Society shall be to collect and publish information on subjects relating to Japan and other Asiatic Countries.
- ART. III. Communications on other subjects may, within the discretion of the Council, be received by the Society, but shall not be published among the Papers forming the Transactions.

MEMBERSHIP.

- ART. IV. The Society shall consist of Honorary and Ordinary Members.
- ART. V. Honorary Members shall be admitted upon special grounds, to be determined in each case by the Council. They shall not be resident in Japan and shall not pay an entrance fee or annual subscription.
- ART. VI. Ordinary Members shall pay, on their election, an entrance fee of Five Dollars and subscription for the current year. Those resident in Japan shall pay an annual subscription of Five Dollars. Those not resident in Japan shall pay an annual subscription of Three Dollars or a Life Composition of Sixteen Dollars gold or Three Guineas.
- Any Member elected after June 30th shall not be required to pay the subscription for the year of his election unless he wishes to receive the Transactions of the past session of the Society.

Any person joining the Society can become a Life Member by the payment of Fifty Dollars; or any person already a member can become a Life Member by the payment of Fifty Dollars, less Two Dollars and Fifty Cents for each year in which he has been an Ordinary Member.

ART. VII. The Annual Subscription shall be payable in advance, on the 1st of January in each year.

Any Member failing to pay his subscription for the current year by the 30th of June shall be reminded of his omission by the Treasurer. If his subscription still remains unpaid on the 31st of December of that year, he shall be considered to have resigned his Membership.

ART. VIII. Every Member shall be entitled to receive the publications of the Society during the period of his Membership.

OFFICERS.

ART. IX. The Officers of the Society shall be:—

A President.

Two Vice-Presidents.

A Corresponding Secretary.

Two Recording Secretaries.

A Treasurer.

A Librarian.

COUNCIL.

ART. X. The affair of the Society shall be managed by a Council composed of the Officers for the current year and ten ordinary Members.

MEETINGS.

ART. XI. General Meetings of the Society and Meetings of the Council shall be held as the Council shall have appointed and announced.

ART. XII. The Annual Meeting of the Society shall be held in December, at which the Council shall present its Annual Report and the Treasurer's Statement of Accounts, duly audited by two Members nominated by the President.

ART. XIII. Nine Members shall form a quorum at an Annual Meeting, and Five Members at a Council Meeting. At all Meetings of the Society and Council, in the absence of the President and Vice-President, a Chairman shall be elected by the Meeting. The Chairman shall not have a vote unless there is an equality of votes.

ART. XIV. Visitors (including representatives of the Press) may be admitted to the General Meetings by Members of the Society, but shall not be permitted to address the Meeting except by invitation of the Chairman.

ELECTIONS.

ART. XV. All Members of the Society shall be elected by the Council. They shall be proposed at one Meeting of the Council, and balloted for at the next, one black ball in five to exclude; and their Election shall be announced at the General Meeting following.

ART. XVI. The Officers and other Members of Council shall be elected by ballot at the Annual Meeting, and shall hold office for one year.

ART. XVII. The Council shall fill up all Vacancies in its Membership which occur between Annual Meetings.

PUBLICATION.

ART. XVIII. The published Transactions of the Society shall contain: - (1) Such papers and notes read before the Society as the Council shall have selected, and an abstract of the discussion thereon:

(2) The Minutes of the General Meetings;

(3) And at the end of each annual volume, the Reports and Accounts presented to the last Annual Meeting, the Constitution and By-Laws of the Society and a List of Members.

ART. XIX. Twenty-five separate copies of each published paper shall be placed at the disposal of the author and the same number shall be reserved by the Council to be disposed of as it sees fit.

ART. XX. The Council shall have power to distribute copies of the Transactions at its discretion.

ART. XXI. The Council shall have power to publish, in separate form, papers or documents which it considers of sufficient interest or importance.

ART. XXII. Papers accepted by the Council shall become the property of the Society and cannot be published anywhere without consent of the Council.

Acceptance of a paper for reading at a General Meeting of the Society does not bind the Society to its publication afterwards. But when the Council has decided not to publish any paper accepted for reading, that paper shall be restored to the author without any restriction as to its further use.

MAKING OF BY-LAWS.

ART. XXIII. The Council shall have power to make and amend By-Laws for its own and the Society's guidance provided that these are not inconsistent with the Constitution; and a General Meeting, by a majority vote, may suspend the operation of any By-Law.

AMENDMENTS.

ART. XXIV. None of the foregoing Articles of the Constitution can be amended except at a General Meeting by a vote of two-thirds of the Members present, and only if due notice of the proposed Amendment shall have been given at a previous General Meeting.

BY-LAWS.

GENERAL MEETING.

- ART. I. The Session of the Society shall coincide with the Calendar Year, the Annual Meeting taking place in December.
- ART. II. Ordinarily the Session shall consist of nine monthly General Meetings; but it may include a less or greater number when the Council finds reason for such a change.
- ART. III. The place and time of Meeting shall be fixed by a Council, preference being given when the Meeting is held in Tōkyō, to 4 p.m. on the Second Wednesday of each month. The place of meeting may be in Yokohama when the occasion is favourable.
- ART. IV. Timely notice of every General Meeting shall be sent by post to the address of every Member resident in Tōkyō or Yokohama.

ORDER OF BUSINESS AT GENERAL MEETINGS.

- ART. V. The Order of Business at General Meetings shall be;—
- (1) Action on the Minutes of the last Meeting;
 - (2) Communications from the Council;
 - (3) Miscellaneous Business;
 - (4) The Reading and Discussion of papers.

The above order shall be observed except when the Chairman shall rule otherwise.

At Annual Meetings the Order of Business shall include, in addition to the foregoing matters:—

- (5) The Reading of the Council's Annual Report and Treasurer's account, and submission of these for the action of the Meeting upon them;

- (6) The Election of Officers and Council as directed by Article XVI. of the Constitution.

MEETINGS OF COUNCIL.

- ART. VI. The Council shall appoint its own Meetings, preference as to time being given to 4 P.M. on the First Wednesday of each month.

ORDER OF BUSINESS AT COUNCIL MEETINGS.

- ART. VII. Timely notice of every Council Meeting shall be sent by post to the address of every Member of the Council, and shall contain a statement of any extraordinary business to be done.
- ART. VIII. The Order of Business at Council Meetings shall be ;—
- (1) Action upon the Minutes of last Meeting ;
 - (2) Reports of the Corresponding Secretary,
of the Publication Committee,
of the Treasurer,
of the Librarian,
and of Special Committees ;
 - (3) The Election of Members ;
 - (4) The Nomination of Candidates for Membership of the Society ;
 - (5) Miscellaneous Business ;
 - (6) Acceptance of papers to be read before the Society ;
 - (7) Arrangement of the Business of the next General Meeting.

PUBLICATION COMMITTEE.

- ART. IX. There shall be a Standing Committee entitled the Publication Committee and composed of the Secretaries, the Librarian, and any Members appointed by the Council. It shall ordinarily be presided over by the Corresponding Secretary.

It shall carry through the publication of the Transactions of the Society, and the re-issue of Parts out of print.

It shall report periodically to the Council and act under its authority.

It shall audit the accounts for printing the Transactions.

It shall not allow authors' manuscripts or printer's proofs of all these to go out of its custody for more than the Society's purposes.

DUTIES OF CORRESPONDING SECRETARY.

ART. X. The Corresponding Secretary shall:—

1. Conduct the Correspondence of the Society;
2. Arrange for and issue notice of Council Meetings, and provide that all official business be brought duly and in order each Meeting;
3. Attend every Council Meeting or give notice to the Recording Secretary that he will be absent;
4. Notify new officers and Members of Council of their appointment and send them each a copy of the By-laws;
5. Notify new Members of the Society of their election and send them copies of the Articles of Constitution and of the Library Catalogue;
6. Unite with the Recording Secretary, Treasurer and Librarian in drafting the Annual Report of the Council and in preparing for publication all matters as defined in Article XVIII. of the Constitution.
7. Act as Chairman of the Publication Committee, and take first charge of authors' manuscripts and proofs struck off for use at Meetings.

RECORDING SECRETARIES.

ART. XI. Of the Recording Secretaries, one shall reside in Tōkyō and one in Yokohama, each having ordinarily duties only in connection with Meetings of the Society or its Council held in the place where he resides.

DUTIES OF RECORDING SECRETARY.

ART. XII. The Recording Secretary shall ;—

1. Keep Minutes of General Meetings ;
2. Make arrangements for General Meetings as instructed by the Council, and notify Members resident in Tōkyō and Yokohama ;
3. Inform the Corresponding Secretary and Treasurer of the election of new Members.
4. Attend every General Meeting of Council, or, in case of absence, depute the Corresponding Secretary or some other Members of Council to perform his duties and forward to him the Minute Book ;
5. Act for the Corresponding Secretary by the latter's absence ;
6. Act on the publication Committee ;
7. Assist in drafting the Annual Report of the Council and in preparing for publication the Minutes of the General Meeting and the Constitution and By-laws of the Society ;
8. Furnish abstracts of Proceedings at General Meetings to newspapers and public prints as directed by the Council.

DUTIES OF TREASURER.

ART. XIII. The Treasurer shall :—

1. Take charge of the Society's Fund in accordance with the instruction of the Council.
2. Apply to the President to appoint Auditors, and present the Annual Balance sheet to the Council duly audited before the date of the Annual Meeting ;
3. Attend every Council Meeting and Report when requested upon the money affairs of the Society, or in case of absence depute some Member of the Council to act for him, furnishing him with such information and documents as may be necessary ;
4. Notify new members of the amount of entrance fee and subscription then due ;

5. Collect subscriptions and notify Members of the unpaid subscription once in or about January and again in or about June: apply to Agents for the sale of the Society's Transactions in Japan and abroad for payment of sums owing to the Society;
6. Pay out all Monies for the Society under the direction of the Council, making no single payment in excess of Ten Dollars without special vote of the Council.
7. Inform the Librarian when a new Member has paid his entrance fee and first subscription;
8. Submit to the Council at its January Meeting the names of Members who have not paid their subscription for the past year; and, after action has been taken by the Council, furnish the Librarian with the names of any Members to whom the sending of the Transactions is to be suspended or stopped.

DUTIES OF LIBRARIAN.

ART. XIV. The Librarian shall:—

1. Take charge of the Society's Library and stock of Transactions, keep its books and periodicals in order, catalogue all additions to the Library, and superintend the binding and preservation of the books;
2. Carry out the Regulations of the Council for the use and lending of the Society's books;
3. Send copies of the Transactions to all Honorary Members, to all Ordinary Members not in arrears for dues according to the list furnished by the Treasurer, and to all Societies and Journals, the names of which are on the list of Exchanges;
4. Arrange with Booksellers and others for the sale of the Transactions as directed by the Council, send the required number of each issue to the appointed agents and keep a record of all such business;
5. Arrange under direction of the Council, new Exchange of the Transactions with Societies.
6. Draw up List of Exchanges of Journals and of additions to the Library for insertion in the Council Annual Report;

7. Make additions to the Library as instructed by the Council;
8. Present to the Council at its November Meeting a statement of the stock of Transactions possessed by the Society;
9. Act on the Publication Committee;
10. Attend every Council Meeting and report on Library matters, or if absent, send to the Corresponding Secretary a statement of any matter of immediate importance.

LIBRARY AND MEETING ROOM.

- ART. XV. The Society's Rooms and Library shall be in Tsukiji, Tōkyō, to which may be addressed all letters and parcels not sent to the private address of the Corresponding Secretary, Treasurer, or Librarian.
- ART. XVI. The Library shall be open to Members for consultation during the day, the keys of the book cases being in the possession of the Librarian or other Members of Council resident in the neighbourhood: and books may be borrowed on applying to the Librarian.

SALE OF TRANSACTIONS.

- ART. XVII. A Member may obtain at half-price for his own use copies of any Part of the Transactions
- ART. XVIII. The Transactions shall be on sale by agents approved of by the Council and shall be supplied to these Agents at a discount price fixed by the Council.

CONTRIBUTIONS TO A BIBLIOGRAPHY OF LUCHU.

BY BASIL HALL CHAMBERLAIN.

[Read February 26th, 1896.]

Léon Pagès, in his "*Bibliographie Japonaise*"

*Members are requested to notify the Librarian
of the Asiatic Society at once if back numbers
have not been received.*

table feature in this bibliography is the exclusion from the main text of all works already catalogued by Pagès, so that the student of Luchuan matters must perforce read right through the earlier work in order to learn the existence of authors so important to him as Father Gaubil, Captain Basil Hall, Rev. Dr. Bettelheim, and Commodore Perry, not to mention others of lesser note. The plan, too, of all these bibliographies includes only works in European languages. It seems to me, however, that at the present day the Japanese authorities on the subject can no longer safely be ignored by those seeking full and accurate information.

The following list, though probably not exhaustive, comprises all the Japanese works on Luchu, both printed and manuscript, that are known to me; and for practical reasons it has been deemed advantageous to include in it a few by native Luchuan authors composed in the Chinese language, as indeed are some of the works by Japanese writers themselves. Those marked "Quoted" have not been seen by me personally, having been met with only in the pages of other writers.

A curious negative item in Luchuan bibliography, which may as well be noticed here, is the disappearance of Bettelheim's translation of the Scriptures. He mentions this translation frequently in his letters, stating different stages of its progress. Yet nowhere in China or Japan, or even in the British Museum, which was specially ransacked for the purpose, can any trace be discovered of aught but the Gospel of St. John; and this, on examination, turns out to be, not in vernacular Luchuan, but in ordinary Japanese.*

1. 中外經緯傳

Chū-gwai Kei-i Den, an account of Luchu by the celebrated scholar Ban Nobutomo (died 1846), forming one Vol. of the collection entitled *Shi-seki Shū-ran*. Printed in 1882.

2. 椿説弓張月

Chun-setsu Yumi-hari-zuki, also called *Chin-zei Hachirō Tametomo Gwai-den*, a historical romance founded on the adventures of Tametomo, the legendary Japanese conqueror of Luchu, by the celebrated novelist Bakin. 30 Vols. Yedo, 1810.

* This on the authority of Rev. I. H. Correll, in a communication to the present writer.

3. 中山傳信錄 六冊

Chū-zan Den-shin Roku, the standard official history of Luchu, composed by a Chinaman named Hsü Pao Kwang, on the basis of the *Chū-zan Sei-fu* and *Chū-zan Sei-kan*. Published in 1722. 6 Vols. Reprinted at Yedo, 1765.

4. 中山聘使錄

Chū-zan Hei-shi Roku, "An Account of the Luchuan Embassy," by Ōtsuki Bansui. 3 Vols. Quoted.

5. 中山聘使略

Chū-zan Hei-shi Ryaku, "Short Account of the Luchuan Embassy," by Sakamoto Jun. Quoted.

6. 中山花木圖

Chū-zan Kwa-boku Zu, an illustrated MS. scroll of Luchuan flowering plants, A. D. 1714. In the possession of Mr. Itō Tokutarō.

7. 中山世譜

Chū-zan Sei-fu, annals of the Luchuan Kings, an early native work compiled by official order. 9 Vols. MS. Preserved in the Prefecture at Nafa.

8. 中山世鑑

Chū-zan Sei-kan, the earliest native history of Luchu, compiled by Royal order in A. D. 1650. MS. Preserved in the Prefecture at Nafa.

9. 地學協會報告

海南諸嶋風俗記

Kai-nan Sho-tō Fū-zoku Ki, 1888, by Tashiro Yasusada. "Notes on the Manners and Customs of the Southern Islanders." Published in the "Journal of the Geographical Society of Tokio."

10. 喜安日記一冊

Ki-an Nik-ki, a MS. journal of the conquest of Luchu by the Prince of Satsuma's troops, preserved in the Prefecture at Nafa.

11. 球陽二拾五冊

Kyū-yō, a MS. native Luchuan history preserved in the Prefecture at Nafa.

12. 宮古鷗ノ洗骨

"*Miyako-jima no Sen-kotsu*, by Hayashi Wakakichi, a short notice inserted in the "Bulletin of the Anthropological Society of Tōkyō" for November, 1895.

13. 南北倭志

Nam-boku Wa-shi, "A Japanese History of the Southern and Northern Islands." Quoted.

14. 南嶋變

Nan-tō Hen, "The Defeat of the Southern Isles." Quoted.

15. 南島記事, 同外篇

Nan-tō Ki-ji, by Gotō Keishin, 3 vols., with sequel by Nishimura Sutezō, some time Prefect of Okinawa, also 3 Vols., Tōkyō, 1886. The former gives a detailed history, the latter a historical sketch and good general account of Luchu, not untinctured with patriotic Japanese prejudice.

16. 南島志 (一名琉球志)

Nan-tō Shi, also entitled *Ryū-kyū Shi*, a history of Luchu written in Chinese by the celebrated Japanese *littérateur*, Arai Hakuseki. It forms one Vol. in the collection entitled *Kan-u-tei Sō-sho*. It was composed in A. D. 1719, but not printed till a much later period.

17. 南 嶋 水 路 誌

Nan-tō Sui-ro Shi, a geography of the Luchuan archipelago, by Yanagi Yūetsu, published by the Hydrographical Bureau of the Japanese Navy. 2 Vols., Tōkyō, 1873.

18. 南 島 探 驗

Nan-tō Tan-ken, "The Southern Islands Explored," by Sasamori Gisuke, 1893. The work itself has been printed for private circulation only; but lengthy extracts are in process of publication in the "Bulletin of the Tōkyō Anthropological Society," under the title of *Ryū-kyū Gun-tō ni okeru Jin-rui-gaku-jō no Gi-jitsu*, the English title given being "The Ethnography of the Luchu Islanders."

19. (田 代 安 定)

沖 繩 縣 八 重 山 群 嶋 取 調 摘 要

Okinawa Ken Yaeyama Gun-tō Tori-shirabe Shi-matsu Teki-yō, or "Epitome of the Results of Researches in the Yaeyama Archipelago in the Prefecture of Okinawa," by Tashiro Yasusada, 50 Vols. MS., with 10 maps. Mr. Tashiro, who visited these islands three times, viz. in 1881, 1884, and 1885, devoted himself specially to botanical investigations, and lost his health in the malarial climate of Iri-omote-jima. Nevertheless he patriotically favours the colonisation and development of the whole group by his countrymen, and has done his best to demonstrate the racial and linguistic affinities that should naturally draw Luchu into the arms of Japan.

20. 地 學 協 會 報 告

沖 繩 縣 與 那 國 紀 事

Okinawa Ken Yonakuni Ki-ji, 1887, by Kada Tei-ichi. "An Account of the Island of Yonakuni," published in the "Journal of the Geographical Society of Tokio."

21. 地學協會報告

沖繩縣八重山紀行

Okinawa, Miyako, Yaeyama Ki-kō, 1885, by Kada Tei-ichi. "A Visit to Okinawa, Miyako-jima, and Yaeyama," published in the "Journal of the Geographical Society of Tokio."

22. 沖繩志 (一名琉球志)

Okinawa Shi, also entitled *Ryū-kyū Shi*. A general description of Luchu, its government, and its people, including history, geography, natural productions, etc., etc., by Ijichi Sadaka, member of a Satsuma family hereditarily connected with the archipelago. 5 Vols. Tōkyō, 1877.

23. 沖繩志略

Okinawa Shi-ryaku, also entitled *Ryū-kyū Shi-ryaku*. An abridged edition of the preceding in 1 Vol., Tōkyō, 1878.

24. 沖繩對話

Okinawa Tai-wa, "Conversations in Luchuan and Japanese," published by the prefectural authorities at Nafa for use in the schools, 2 Vols., 1880. This is the only Japanese work dealing with the Luchuan language. It gives no grammar, and the style of the dialogues is stiff and somewhat foreign in complexion.

25. 琉客譚記

Ryū-kaku Dan-ki, perhaps the same as the *Ryū-kyū Banashi*. Quoted.

26. 琉客談記

Ryū-kaku Dan-ki, an account of Luchu founded on an oral communication received from natives in 1796, by Akasaki Teikan. Forming part of one Vol. in the historical collection entitled *Shi-seki Shū-ran*.

27. 琉球談

Ryū-kyū Banashi, a general account of Luchū and its customs, copiously illustrated. 1 Vol. Yedo, 1790. Also 2 Vols., Kyōto, 1890.

28. 地學協會報告

琉球沿革地理

Ryū-kyū En-kaku Chi-ri, 1880, by Ijichi Sadaka. "Luchuan History and Geography," published in the "Journal of the Geographical Society of Tokio."

29. 琉球藩史

Ryū-kyū Han-shi, "History of the Principality of Luchu," by Kobayashi Kyōkei. 2 Vols. Tōkyō, 1874; but the work appears to be incomplete.

30. 琉球聘使記

Ryū-kyū Hei-shi Ki, "Record of the Luchuan Embassy," by the celebrated Japanese Confucianist Ogyū Sorai, who died in 1727. Quoted.

31. 琉虬百花譜

Ryū-kyū Hyak-kwa Fu, "An Illustrated Flora of Luchu," by Tō Seiyō. Quoted.

32. 琉球事件

Ryū-kyū Ji-ken, "Luchuan Affairs." Quoted.

33. 琉球事畧

Ryū-kyū Ji-ryaku, "A Short Account of Luchu," by Katsurayama Yoshiki, 1742, forming part of a Vol. in the *Kan-u-tei Sōsho* collection. Written in Chinese.

34. 琉球事畧

Ryū-kyū Ji-ryaku, a different work from the preceding, though bearing the same title. It is by Arai Hakuseki, and written in Japanese. It forms one Vol. of the collection entitled 五事略 *Go Ji-ryaku*.

35. 琉球狀

Ryū-kyū Jō, a letter on Luchu, by Yashiro Tarō, Yedo, 1832. He discusses the name "Luchu" and other points, quoting numerous authorities.

36. 琉球瑠淨理

Ryū-kyū Jōruri, a Japanese transliteration and translation of a Luchuan historical drama entitled "The Young Lord of Kushi." By Matsuyama Denjūrō. Tōkyō, 1889.

37. 琉球奇譚

Ryū-kyū Ki-dan, "Strange Stories from Luchu." Quoted.

38. 琉球國史略大冊

Ryū-kyū Koku-shi Ryaku, an "Epitome of Luchuan History,"—a MS. Chinese work of the Ming dynasty, preserved in the Prefecture at Nafa.

39. 琉球年代記

Ryū-kyū Nen-dai-ki, "Annals of Luchu." Quoted.

40. 琉球入貢記畧

Ryū-kyū Nyū-kō Ki-ryaku, an account of official Luchuan visits to Japan, by Yamazaki Kyūsaku. 1 Vol. Yedo, 1882.

41. 琉球往來

Ryū-kyū Ō-rai, "Letters on Luchu," by the Buddhist priest Taichū. 1 Vol. MS. Written at Nafa in 1608.

42. 琉球產物誌

Ryū-kyū Sam-butsu Shi, or "Account of the Natural Productions of Luchu." Quoted.

43. 琉球新誌

Ryū-kyū Shin-Shi, "A New History of Luchu." Quoted.

44. 琉球神道記

Ryū-kyū Shintō Ki, a work on Luchuan religious and other antiquities. 2 Vols. print, by the Buddhist priest Taichū. (Early in 17th century.)

45. 琉球書簡之寫

Ryū-kyū Sho-kan no Utsushi, Copies of Despatches from the Luchuan Government to the *Gorōjū*, or Japanese Council of State under the former feudal system. MS. No date.

46. 琉球植物圖錄

Ryū-kyū Shoku-butsu Zu-roku, with the alternative English title "Materials for a Flora of the Luchu Islands," by Itō Tokutarō, grandson of the celebrated botanist Itō Keisuke. Still unprinted, though thirty volumes out of the fifty intended to constitute the work are ready for the press.

47. 東京人類學會十卷第百七号

琉球諸嶋發見ノ曲玉ト阿波國發見ノ曲玉

Ryū-kyū Sho-tō Hak-ken no Maga-tama to Awa no Kuni Hak-ken no Maga-tama, 1895, by Nakai Iyota. "Discovery of *Maga-tama* on the Luchu Islands and in the Province of Awa," published in the "Bulletin of the Tōkyō Anthropological Society."

48. 琉球草木新圖

Ryūkyū Sō moku Shin-zu, or "New Illustrations of the Plants of Luchu." Quoted.

49. 琉球雜誌

Ryū-kyū Zatsu-wa, "A General Account of Luchu." Quoted.

50. 琉球屬和錄

Ryū-kyū Zoku-wa Roku, "An Account of the Subjection of Luchu to Japan." Quoted.

51. 嶋津琉球軍精記

Shimazu Ryū-kyū Gun-sei Ki, a historical novel founded on the conquest of Luchu by Shimazu, Prince of Satsuma. 27 Vols. MS.

52. 質問本草

Shitsu-mon Hon-zō, 5 Vols. illustrative of the Luchuan flora, by Go Keishi, a native Luchuan physician. Composed circa 1789, published 1835, apparently at Yedo. (Conf. Mr. Itō Tokutarō's account of this work in "Nature" for 6th October, 1887.)

53. 地 學 雜 誌

種子島及屋久嶋探檢記

Tanegashima oyobi Yakushima Tan-ken Ki, by Nishiwada Kyūgaku, 1895. "Notes on Researches in Tanegashima and Yakushima." Published in the "Geographical Journal" (Tōkyō) and also in the "Journal of the Geographical Society of Tokio." This is an interesting account of the northernmost islands of the Luchuan archipelago.

CHINESE REFUGEES OF THE SEVENTEENTH CENTURY IN MITO.

BY ERNEST W. CLEMENT, M.A.

[*Read April 8, 1896.*]

It is a trite, but none the less true, saying, that "history repeats itself." The capture of Constantinople by the Turks in the fifteenth century scattered the learned men of the East and their learning over the West, and produced throughout Europe a Renaissance, whose vast influence has never yet been accurately measured, and which was undoubtedly one of the chief elements in modern civilization. Again it was Tartar hordes which, about 200 years later, overthrew the reigning native dynasty of China, and unwittingly produced in the neighboring land of Japan a Renaissance, which led ultimately to the Restoration of 1868, and was evidently one of the chief elements in the civilization of New Japan. For, as the Greek scholars, fleeing from Constantinople, took refuge in various countries of Europe, likewise many patriotic Chinese scholars¹ fled from their native land and took refuge in Japan. Again, as the fugitive Greek savants stirred up throughout Western Europe a revival of learning, in like manner the fugitive Chinese scholars aroused in Japan a deeper interest in Oriental learning. Since, moreover, Mitsukuni (Gikō), a

¹ See Note B.

grandson of Iyeyasu, and the second Tokugawa Prince of Mito, was a great patron of literature, he invited two of these refugees to homes in his clan. One was named Shu Shunsui; the other was called Shinyetsu; these two are now to be the subjects of biographical sketches, which, on account of the lack of materials, must be brief. [See also Note K.]

* * * * *

Shu Shiyu,² more popularly known as Shu Shunsui,³ was born in Sekko (Che-kiang) Province in the 28th year of Manreki, according to the Chinese calendar, or in the year 1600 of the Christian era. Both his grandfather and his father were honored officials of the Ming dynasty. In his youth he studied earnestly, and "completely digested" the principles of all Chinese philosophy. While he was still young, he had the honor of becoming an "honorary student" of his country. He cherished good political ideas, so that it was expected, that he would become a high official of the government. But, as the power of the central government had already begun to decline, the whole empire was involved in abuses and injustice. Shu Shunsui consequently gave up his intention of entering the public service; he used to say to his family, that if he should be honored by being made the governor of a province, and should become very popular, he would certainly be destroyed by envy. As Caesar chose rather to be chief in a small village than to be second in Rome; so Shu Shunsui was content to be the leader of his village, and the central figure of a small circle of friends; because, as he said, "a rose smells more sweetly on a small bush than in a fine garden." Not a few times he received invitations to accept office from the local authorities and from the central government; but he invariably declined.

² 朱之瑜 ³ 朱舜水

Finally, Shu Shunsui, accused of being "a disobedient fellow," had to flee by night to the seashore. Here he embarked in a ship and came to Japan, whence he sailed for Anam. But, after a short time, he returned to Shusan (Chusan) Island, where there was an army under the command of an officer, named Kōken.⁴ This man, in spite of Shu Shunsui's repeated refusals, compelled the latter to fill several important offices. In the 5th year of the (Chinese) period Eiriaku [1651], the generals and captains in Chusan became suspicious of each other; and an immense army of Manchurians, having already brought half of the empire under its sway, was rapidly sweeping down from the north.

Thus Shu Shunsui was once more obliged to leave his native land, and tried to go again to Anam; but, being prevented by a storm, he landed at Nagasaki. Though he had disliked to serve in the government, he could never give up the idea of restoring the declining power of the Ming dynasty. His most intimate friend, with whom he consulted concerning the plan of the restoration, was a brave and loyal general, named Ōyoku,⁵ who, with a small army, gained many splendid victories over "the Northern barbarians." Shu Shunsui had come to Japan with the purpose of obtaining aid from the Japanese Government; but he unfortunately failed to get any assistance. After a little while, the brave general Ōyoku died a captive. The news of this sad event reached Shu Shunsui very late, and was received by him with bitter regret. He did not know the date of his friend's death; but he appointed the fifteenth of the eighth month as a memorial day. "From that time till he closed his melancholy life in this remote island, he had no moon-festival (*tsukimi*)."⁶ That same night of every year, "while others were singing gaily, and drinking in the silvery flood of the autumn moon, he closed his gate,

⁴黄欠 ⁵王翊

declined to receive guests, and engaged in silent contemplation. [See p. 404, Part II, Vol. XIX, "Transactions" of this society, for a similar incident.]

"As the Japanese Government was not generous enough to shelter even such a poor fugitive," he was obliged, "though he had lost his way home," to venture to sail back to Chusan. Here, as Prince Roō⁶ had made a temporary palace on that island, he fortunately found himself still under the Ming dynasty. The officials of "this miserable government" requested his services; but he declined as before. One day, when he was on board a ship about to sail, he was captured by soldiers of the Shing [Ts'ing] dynasty, who, with drawn swords, threatened to kill him, if he did not swear allegiance. His life was in great danger, and was saved only by his calm attitude, which the Manchurian warriors admired.

The next year [] he went to Anam by way of Japan; for navigation directly from China to Anam was impossible. In the 9th year of the Eiriaku period [1655], Prince Roō sent to him a special letter of invitation, which "contained words so touching that Shu Shunsui wept on reading it," and at once determined to sail back and serve under the Prince.

But, a few days before the date he had chosen for his departure, a new calamity occurred. The King of Anam, desirous of keeping and employing Chinese scholars in his country, seized Shu Shunsui with the intention of compelling him to write letters and poems. The latter objected, on the ground that his "heart was disturbed by anxiety for his country and his family." Notwithstanding this reasonable apology, he was taken into the presence of the king; but refused to bow to the monarch. The latter, very angry, ordered him to be put to death: but again Shu Shunsui, by his wonted calmness, gained the victory. The king and his

courtiers discovered that he was no ordinary person; and the monarch, beginning to admire him, spared his life, but still declined to release him. Shu Shunsui, however, wrote a letter, which plainly set forth his misfortunes and his plans, and finally gained permission to leave Anam.

But, as before, direct communication with China was interrupted; so that he had to come to Nagasaki, thence he sailed to the island of Chusan.

Upon his arrival, he discovered, to his bitter disappointment, that, during his absence, the island had been captured by the enemy; that his intimate friends, such as Shu Eiyū⁷ and Go Shōran,⁸ were dead; and that there was no more hope of restoration. "He considered it beneath the dignity of a patriot and a loyalist to follow all the fashions and customs of the semi-civilized Emperor" of the new dynasty. Therefore, in the next year [1656], he came again to Japan, where he intended, as he put it, "to preserve and enjoy the old manners and customs of the conquered dynasty."

There was at that time in the Yanagawa *han* a *samurai* named Andō Shuyaku, who, having met Shu Shunsui several times, had become a great admirer of the latter's character, Andō and some of his friends petitioned the governor of Nagasaki to allow this learned Chinaman to stay there, and gained the desired permission. The savant, having been a rover for so long a time, had lost a large amount of money, and had no way left for supporting himself. But the generous Andō promised to share with him half his own meager salary of only 80 *koku*! Shu Shunsui felt under great obligations to his benefactor, always treated the latter very kindly, and, when Andō, in his leisure, came to Nagasaki, gave him good instruction in Chinese and other lines of study. Andō, on the other hand, felt so much anxiety for his teacher, that, "whenever there was a high wind or a heavy rain, he sent to ask after Shu Shunsui's welfare."

⁷ 朱永祐 ⁸ 吳鐘璣

In 1665 Mitsukuni (Gikō), the famous Prince of Mito, sent a messenger to invite Shu Shunsui to come to the East (Kwantō). The latter, who had already heard of the fame of this Prince, willingly accepted the invitation. Under these auspices, Shu Shunsui "served as a friend, an adviser, a secretary, a father; and worked kindly, loyally, earnestly. Sometimes he discussed history, sometimes philosophy, with the Prince; one day, poetry, and another day, politics." He wrote an inscription⁹ on the large bell "which, still striking every hour, reminds us [the people of Mito] of him and his master"; he wrote also the history of Kōchintei, a country-seat of the prince. Mitsukuni, on his part, respected the learned man; treated him with kindness and generosity; and built for him a very cozy residence in Komagome in Yedo. On Shu Shunsui's seventieth birthday, the Prince gave a generous entertainment; and although Shu Shunsui wished to leave for Nagasaki, refused to permit him to go away.

Shu Shunsui also made several models of Confucian temples and of the schools that are attached to the temples, and of the utensils used in the worship of the Chinese sage and philosopher. The models are "well-made, accurate, elegant and truly wonderful"; and are still kept in the Shōkō-kwan¹⁰ in Mito. It is said that His Majesty, the Emperor, during his visit to Mito (October 26-29, 1890), saw these models and expressed great admiration for them.

A few years before Shu Shunsui's death, the prince persuaded him to make inquiries about his family. When the letter reached them, they thought, on the first reading, that it was nothing but a dream. But, after several readings, they came to realize, that the person long-forgotten and mourned as dead was still on the earth,—in the neighboring country. "Raptures moistened with tears were the only

⁹ See Note C. ¹⁰ Name of a library.

consequences." Then, to examine into the matter as carefully as possible, they sent to Japan a man named Yōkō.¹¹ But, although he came as far as Nagasaki, he was captured, on his way home, by an officer of his native country, and made to serve as a soldier for several years.

Shu Shunsui's first son, Taisei,¹² had ended his life as a retired teacher; the second son had died without child: but there remained a son of Taisei. He was named Ikujin;¹³ and, two years after Yōkō had made his vain trip, this grandson came to Nagasaki, but, being prevented by the law, could not go to Yedo. Shu Shunsui, moreover, was so old that he could not go to Nagasaki. "What a grievous thing! The affectionate grandson and the lonely grandfather, though they were in the same land, could not embrace each other. There was no chance of their meeting on this side of the grave; but it is certain, that their dreams every night floated out of their beds, and wandered between the western port and the capital."

Prince Mitsukuni was very much moved by this incomparable misfortune, and tried to have the grandson come to Yedo to live with the grandfather. But Ikujin, on the ground that he ought to return at once, and report the facts to his mother, brother and other relatives, declined. Shu Shunsui sent letters to him, asked many questions about the political changes and his old friends. He likewise advised his grandson to engage in *any* profession *except* that of an official of the Shing [Ts'ing] dynasty. Ikujin then, with letters from Shu Shunsui and costly presents from the Prince of Mito, sailed for his native country. There a war soon broke out and prevented him from making another visit, as he wished, to Japan.

On Shu Shunsui's eightieth birthday the prince with his son went to the teacher's house and offered their con-

¹¹姚江 ¹²大成 ¹³毓仁

gratulations. In his eighty-third year, in the fourth month of the second year of Tenwa [1682], this learned refugee died, and was honored with a burial in Zniryū, the family cemetery of the Mito prince.¹⁴ He had, a few years before, in accordance with the custom of his native land, made his own coffin and shroud. The inscription on the face of his tomb reads as follows:—*Min* [no] *chōkunshi Shu shi* [no] *haka*—“The tomb of Shu, an invited gentleman of the Ming [dynasty].”¹⁵

Shu Shunsui was “kind and honest; had no mean passions; was very regular in his daily conduct.” His humility was proved by the fact that he never showed to others the letter of invitation from Prince Roō; it was found, after his death, in a tight box which was kept in the bottom of his trunk. He liked guests, loved his friends, and guided his pupils¹⁶ very kindly. His memory was exceedingly strong; he had a rich imagination and also a good power of generalization.” His learning was profound and accurate. He was at once mechanic, engineer, statesman, poet and savant.¹⁷

During his service with the Prince of Mito, he was so economical, that by the time of his death he had accumulated about 3,000 gold *ryo*. This money, it is said, he intended for the expense of a new uprising against the invaders of his native land; but he finally left it to the Prince of Mito. After he came to Yedo, he several times sent elegant presents to his old student and benefactor, Andō, to repay the latter for his kindness. But Andō refused to accept these presents and “was content, that his old master was receiving incomparable favors from the wisest prince of the age.”

The prose writings of Shu Shunsui were published, in 28 volumes, by the prince, who wrote in the introduction,

¹⁴ Vide T. A. S. J., Vol. XVIII, Part I, pp. 6 and 21.

¹⁵ See Note D. ¹⁶ See Note E. ¹⁷ See Note F.

"Collected by his pupil." The topics treated therein are various. He was called a poet; but, although he could write good poetry, he seldom indulged himself.¹⁸

It is a little difficult to ascertain the extent to which Shu Shunsui and other Chinese scholars were connected with the work of the Dai Nihon Shi. Dr. Wm. E. Griffis says in "The Mikado's Empire" that this "classic, which has had so powerful an influence in forming the public opinion which now upholds the Mikado's throne, is the product of the native scholars, who submitted their text for correction to the Chinese scholars."¹⁹ Also in his "Japan in History, Folk-Lore and Art" he writes: "He [Mitsukuni] also invited to assist, and correct the historical books which were written in the Chinese characters, the scholars who had fled from Peking when the Ming dynasty fell before the Manchiu Tartars in 1627."²⁰ But, although there is no positive evidence that the assistance of Shu Shunsui, for instance, extended beyond textual correction, yet it seems not at all improbable that even that slight opportunity was utilized for teaching loyalty to the central authority; nor is it impossible that Chinese political ideas were somewhat incorporated into the teachings of the Dai Nihon Shi.

* * * * *

The other Chinese refugee who found a welcome in the Mito *han* must be called, as his true name is unknown, by his priestly name, Shiuyetsu.²¹ He was born in Koshū (Hangchow) in the province of Sekko (Chekiang) in the twelfth year of the (Chinese) period Shutei, or in 1639 A.D. When he was only 10 years old, he became a priest. He studied chiefly with a priest named Suibi Katsudō,²² and "from him learned the true principles of Buddhism." Finally he became abbot of the Eifuku temple in Mu county

¹⁸ See Note H.

¹⁹ p. 300.

²⁰ p. 205.

²¹ 心越

²² 翠微菴堂

of his native province. At this time the Ming dynasty was almost overthrown, and the Tartars had practically established their power over the land. In 1677, by the advice of a Japanese merchant in China, he came to Nagasaki.

The abbot of the Kōfuku temple in that place welcomed Shinyetsu, and gave up his place to the refugee. The next year, the Prince of Mito sent to him a letter of invitation, which Shinyetsu answered favorably, but started first to visit some of the famous places of Japan. In the seventh month of the first year of Tenwa [1681], Shinyetsu first met Mitsukuni, who gave him a home in the third mansion (*shimo-yashuki*) of the Mito clan in Yedo. A few years later, he entered Mito for the first time, and visited the tomb of his countryman, Shu Shunsui, at Zuiryū. He then lived in a house, newly built for him, in the castle grounds.

In the — year of Genroku [1688-1703], Mitsukuni erected in Mito a temple called Gionji, which he proposed to make the head temple of the Sōtō branch of the Zen sect of Buddhism. The celebration of the opening of this temple was magnificent, and was performed, it is said, by 2,400 priests. In its early days there were always 200 priests living and studying in the temple. Its property consisted of the grounds, valued at 97 *koku*; the local estate (*chigyōsho*), worth 200 *koku*; and an annual contribution of 100 bags of rice from the Mito *han*. Now there is only one priest, who barely obtains a living.

In 1694 Shinyetsu showed signs of illness; so that his friends and pupils advised him to go to Nasu and other hot springs. Mitsukuni took good care of him, but in vain; for, in the ninth month of the eighth year of Genroku [1695], he passed away at the age of 57. He lies buried, within the precincts of the Gion temple, under a plain tomb, bearing the inscription:—*Jushō-kaizan-Shin-daishō no tō*, or "The tomb of the great priest, Shin [posthumously called] Jushō, opener of the mountain [temple]." [See Note D.].

In the Gion temple are a number of relics,²³ which the priest will show any one. Materials for this sketch are meagre; of his character we could find only, that "his learning was great and his conduct upright."

* * * * *

The influence exerted by the learned Chinese refugees, especially by Shu Shunsui, was considerable. Besides their direct and indirect literary work, we must not lose sight of the deeper interest which was naturally aroused in the study of Chinese literature and philosophy by their presence. The teachings of Confucianism and the personal influence of the learned men stimulated the feeling of loyalty to Prince and to Emperor. It is, of course, a difficult matter to trace clearly the extent of such influence; but it is generally admitted by those who have studied the matter, that the presence of Chinese *literati* in Japan did give a greater impetus to learning. It is, indeed, true, that the revival of learning had before their arrival begun under the auspices of Iyeyasu himself, who, after he had conquered a peace, reorganized the Empire on the feudal basis, and practically settled upon the policy of seclusion and crystallization, "determined also to become the architect of the national culture."²⁴ He encouraged study, especially of the Chinese classics, and stimulated education. It is, therefore, no wonder that the Chinese savants received a warm welcome, and it seems, under the circumstances, as if they had "come to the kingdom for such a time as this." Dr. Griffis says:²⁴ "These men from the West brought not only ethics but philosophy; and the fertilizing influence of these scholars of the Dispersion, may be likened to those of the exodus of Greek learned men after the capture of Constantinople by the

²³ Vide Vol. XVIII, Part I, p. 24, of the "Transactions" of this society.

²⁴ "The Religions of Japan," pp. 134, 135.

Turks. Confucian schools were established in most of the chief provincial cities. For over two hundred years this discipline in the Chinese ethics, literature and history constituted the education of boys and men of Japan. Almost every member of the Samurai classes was thoroughly drilled in this curriculum. All Japanese social, official, intellectual, and literary life was permeated with the new spirit."

Now, the very fact of the association of Shu Shunsui with Mitsukuni, Prince of Mito, illustrates the two or three lines along which the Japanese were gradually led to renewed political or administrative unity, that is, to Imperialism. One line was Confucianism, which taught loyalty; another was historical research, which exhibited the Shōgun as a usurper; and a third was the revival of Pure Shintō, which necessarily and spontaneously accompanied or followed the second. Prof. B. H. Chamberlain says²⁵ with reference to the overthrow of the Tokugawa régime: "Strangely enough, the instrument of destruction was historical research. Iyeyasu himself had been a great patron of literature. His grandson, the second Prince of Mito, inherited his taste. Under the auspices of this Japanese Maecenas, a school of *literati* arose to whom the antiquities of their country were all in all—Japanese poetry and romance as against the Chinese Classics; the native religion, Shintō, as against the foreign religion, Buddhism; hence, by an inevitable extension, the ancient legitimate dynasty of the Mikados, as against the upstart Shōguns." Dr. Griffis also writes²⁶: "The necessary result of the study of Shintō was an increase of reverence for the

²⁵ "Things Japanese," under the topic "History and Mythology."

²⁶ "The Mikado's Empire," p. 300.

Mikado. Buddhism, Chinese influence, Confucianism, despotism, usurpation, and the *bakufu* were, in the eyes of a Shintōist, all one and the same."

But in another place²⁷ Dr. Griffis says: "Certain it is that during the revival of Pure Shintō in the eighteenth century, the scholars of the Shintō school, and those of its great rival, the Chinese, agreed in making loyalty take the place of filial duty in the Confucian system. To serve the cause of the Emperor became the most essential duty to those with cultivated minds. The newer Chinese philosophy mightily influenced the historians, Rai Sanyo and those of the Mito school, whose works, now classic, really began the Revolution of 1868. By forming and setting in motion the public opinion which finally overthrew the Shōgun and feudalism, restored the Emperor to supreme power, and unified the nation, they helped, with modern ideas, to make the New Japan of our day. The Shintō and the Chinese teachings became amalgamated in a common cause, and thus the philosophy of Chu Hi, mingling with the nationalism and patriotism inculcated by Shintō, brought about a remarkable result." Dr. Griffis also quotes briefly in this connection from Haga's "Notes on Japanese Schools of Philosophy," from which I beg leave to quote much more fully²⁸:—

"This union of Chinese philosophy with Shintō teaching was still more successfully carried out by the scholars of the Mito clan, as represented by Tokugawa Nariaki (or Rekkō), the Daimyō of Mito and a descendant of Mitsu-kuni, the historian, and by Fujita Tōko, Aizawa Kōzo, and others, *samurai* of the Mito clan. They wrote in Chinese in spite of their being exceedingly national and patriotic, and their philosophy was essentially that of Shushi. These upheld as much as any one the rights of the Imperial court,

²⁷ "The Religions of Japan," pp. 142, 143.

²⁸ "Transactions of the Asiatic Society of Japan," Vol. XX, Part I. p. 147.

and encouraged loyalty to it. For some time before the restoration of the Imperial Government these scholars exercised great influence on the minds of the *samurai*, and indirectly did much to bring about the revolution. For many of those who played an important part in it had been, in one way or another, under the influence of their teachings. It will thus be seen that the whole movement of the Kinnō-ka derived much of its impetus from the then accepted exposition of Shunjū and from Shushi's *Tsugan Kōmoku*." It is Mr. Haga also who says that "the Shintō and Chinese teachings became amalgamated in a common cause."

I am able still further to illustrate the way in which the Mito scholars harmonized, or attempted to harmonize, Shintō and Confucianism. When Nariaki in 1840 established in Mito his school called *Kōdōkwan*, or "institution for propagating the truth," he set up in the garden a large stone, containing an inscription that set forth the object of this school. In this dedicatory essay he attempted to answer Pilate's question, "What is truth?" but did not succeed in being very definite. He seems to make the word refer, now to Shintō interpretations of "natural law," now to Shintō as the national cult, and finally to that mixture, or combination, of Shintō and Confucianism which we are now considering. He says, for instance: "To Take-mika-zuchi no Kami, who wrought immortal deeds in the primitive ages, and still lives in the memory of the inhabitants of this province, I have here dedicated a temple. [I have done this] for the sake of rewarding his benevolence, and of making our people understand that this inviolable truth originated in such antiquity. I have also built a shrine to Confucius, who propounded the mortal doctrines of the Tō, Gu and three other dynasties—doctrines that our countrymen adopted and *amalgamated with, thus modifying, the original truth*. [This I have done] for the purpose of having our people know, that the fact, that this [original] truth became brighter and more beautiful is not without its cause."

He then appeals to them to "hold firmly the truth of this holy nation; *at the same time adopt the principles of the western land [China]; respect both the gods and Yu [Confucianism].*"

It would seem, therefore, as if Shintō and Confucianism, although in many respects antagonistic, (simply from the fact that one was Japanese while the other was Chinese), were made, like Herod and Pilate on one occasion, friends in a common cause. The Japanese during the Tokugawa Era seem to have been led along three roads to Imperialism. There was the straight highway of historical research; on the right side, generally parallel with the main road, and often running into it, was the path of Shintō; on the opposite side, making frequently a wide detour to the left, was the road of Confucianism: but all these roads led to Kyōto.

In corroboration of this general view I wish to quote from one more native scholar, Mr. Inazo Nitobe, who says:²⁹ "The revival of Chinese classics, consequent upon the migration of the Chinese savants in the seventeenth and eighteenth centuries, reminded anew the scholars of Japan that they owed allegiance solely and singly to the Tennō (Emperor). The simultaneous revival of pure Shintoism, which inculcated the divine right and descent of the Emperor, also conveyed *the same political evangel.*" It seems, therefore, as if, with the aid of Chinese savants, Mitsukuni, the "Japanese Maecenas," a scholar himself and the patron of scholars, set on foot a Renaissance in literature, learning and politics; and has most appropriately been styled by Sir Ernest M. Satow "the real author of the movement which culminated in the Revolution of 1868."

²⁹ "The Intercourse between the United States and Japan," p. 30.

[NOTE A.]

I wish to acknowledge my great indebtedness to a former colleague, Professor C. Tani, who has rendered valuable assistance in supplying translations from various works in the vernacular; to Lieutenant-Colonel Murata and Mr. Yokoi, of the General Staff Office, for giving me access to interesting material concerning *Kōraku-yen*; and to other Japanese friends for assistance in various ways.

[NOTE B.]

I have tried to obtain information concerning other Chinese refugees, but have not been very successful, as I have discovered only a few facts concerning three men. One was called Tai Ryū⁸⁰, or Tai Man Kō,⁸¹ who, like Shinyetsu, was born in Koshū (Hangchow). He came to Japan in the 3rd year of Showo [1654], but stayed only one year in Nagasaki. He afterwards came again to Japan, with In Gen, a Buddhist priest, and became himself a priest. In the 1st year of Manji [1658], he came to Yedo with In Gen. Matsudaira Izu no Kami and Miura Shima no Kami were very intimate with these two Chinamen, and, together with others, advised them to stay in Yedo. But the latter soon returned to Nagasaki. They came again, however, to Yedo and stayed there three years. Tai Ryu was not only a scholar, but also such a skilful physician, especially in treating small-pox, that he was given the title of "divine physician" [*shin-i*]. A stone monument is said to have been erected to his memory, by a pupil of his, at Kawagoye, about 11 *ri* from Tōkyō in the province of Musashi. This monument is inscribed with the words:—"Min [no] dokuritsu Zenshi [no] haka"—"The monument of an independent Zen teacher of the Ming [dynasty]."

The above-mentioned priest, In Gen,⁸² whose real name was Ryū Ki,⁸³ was also from Koshū (Hangchow); concerning him consult the "Hand-Book of Japan" (see index).

One other Chinaman, named Chin Gen Bin,⁸⁴ was not only famous as a scholar (*bunjin*), but was also very skilful in boxing (*kempō*). He found a refuge in the province of Owari, which, like Mito, although one of the three honorable houses of the Tokugawa family, was strongly Imperialistic. It seems to me as if some one, more likely a Japanese member of this society, might be able to pursue still farther, and more thoroughly, investigations along this interesting line of research. [See also Note K.]

[Note C.]

This inscription is not considered remarkably good as a composition, and proved extremely difficult to translate. But, by the kindness of a native friend, I was favored with the following translation, which at least gives the general idea of the inscription:—

"A bell is a thing that warns against the indulgence of princes and subjects, and stimulates them to diligence. When the big bell tolls, its sound reaches near and remote places. The Emperor and his feudal lords haste to put on their morning robes, and to inquire about their governments; the chief ministers and lower officers are ready to dress in their official garments and to call their riding-horses. If there is a bell, the wise princess has no chance to complain of the late attendance of her husband [at court]; if there is a bell, the common people have no need to hear the 'red-cap' who cries out, 'the cock crows.' How great its benefits are!

"Therefore, beginning with the Imperial metropolis, in all feudal provinces, all counties, and even in hamlets, we always find a bell. Mito is a large province; of course, a

bell is required. The prince of Mito, a Councillor (*Sangi*), loves learning, and is rich in knowledge of history and antiquity. Thinking that a bell is necessary, he has melted good metals, has moulded a bell, and has hung it in the castle. By this he intends to warn persons of rank, to warn lower knights and common people, and to warn himself also. Though the length, size, and sound of the bell do not exactly correspond with the old style, there was no need to bring in a bell from another country.

“The future good of the bell is beyond doubt. The stanza (*mei*) is follows;—‘When the sky and the earth dawn, this bell begins to toll. All gales become silent when its sound solemnly rolls. The prince dresses in the twilight, and the tinkle of the carriage-ring is heard. The prince asks about his subjects; the officers tell the state of the administration. The bell-cord rubs off constantly: but the bell sounds more and more deeply. Having sought to be made, the bell’s work is now completed. Its wise plan is the model for ever; and its grand name lives to eternity.’”

One or two references may need a little explanation. It appears, for instance, that there was a custom, originating during the Kan dynasty in China, for an officer wearing a red cap to go about to announce the dawn. In the closing sentence the “wise plan” of the bell refers to its “warning” influence. There are also one or two points of which I could obtain no satisfactory explanation.

The bell also contains inscriptions giving the names of the prince and his heir; the date (which, however, does not correspond with positively established dates in Mito local history); the names of three councillors (*Karō*) of the prince; and the name of the bell-moulder. The fact that the inscription was written by a Chinaman adds, of course, to its interest as an antiquarian relic of Mito.⁸⁵

⁸⁵ Japan Daily Mail, April 6, 1891.

[NOTE D.]

The accompanying photographs of the graves of Shu Shunsui and of Shinyetsu were taken by Rev. J. L. Dearing, of Yokohama. The grave of Shu Shunsui is, unfortunately, in such a dark spot, that it was impossible to obtain a clear impression. Inasmuch as all the ideographs of the inscription are not legible, they are here transcribed:— 明徴君半米子墓

The photograph of Shinyetsu's grave is very clear. Although the ideographs of the inscription are easily legible, to avoid any possible errors, such as were made in the translation on page 24 of Part I, of Vol. XVIII, of the "Transactions" of this society, they also are here transcribed:—

壽昌関山心大和尚之塔

[NOTE E.]

Azaka Tampaku, a famous historian, was one of the pupils of Shu Shunsui, from whom he learned Chinese.

[NOTE F.]

The following condensed description of the beautiful garden in the Mito Yashiki (now the arsenal) is taken from a book called Yedo Meiyen Ki, or "Description [of] Famous Gardens [of] Yedo," Dr. Griffis says; ⁸⁶ "One of these men [the Chinese refugees] laid out, in imitation of a classic Chinese scene, the renowned Mito gardens in Yedo, still the most famous in Japan." While this statement may possibly exaggerate Shu Shunsui's share, the following is perhaps authoritative:—

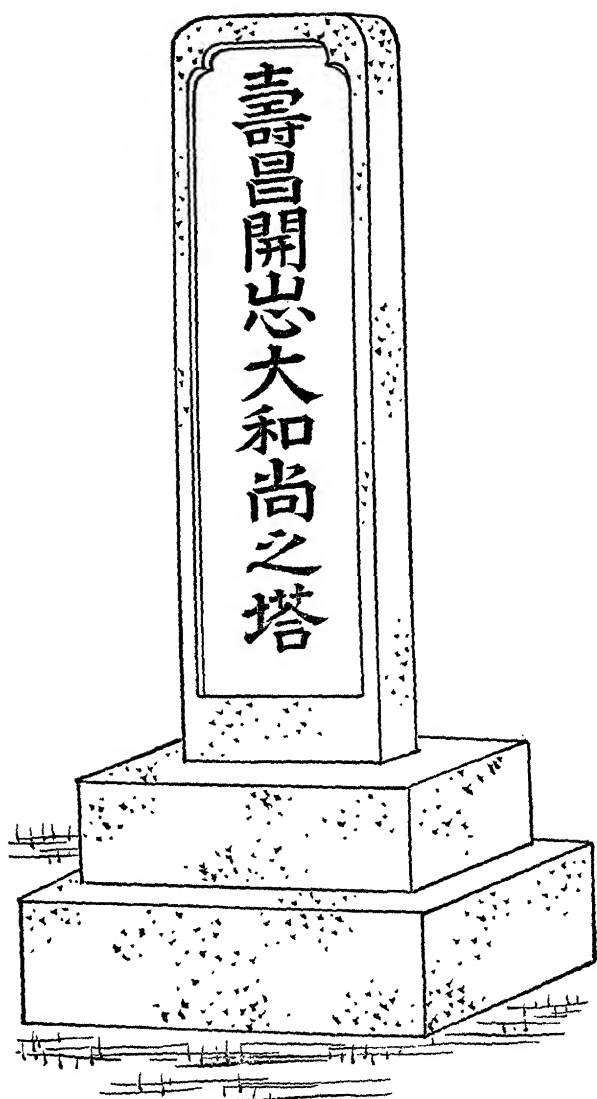
Prince Yorifusa [the first Tokugawa *daimyō* of Mito, and a son of Iyeyasu] received the Koishikawa residence from the Third Shōgun [Iyemitsu]. As the prince was

⁸⁶ "Japan in History, Folk-Lore and Art," p. 205.

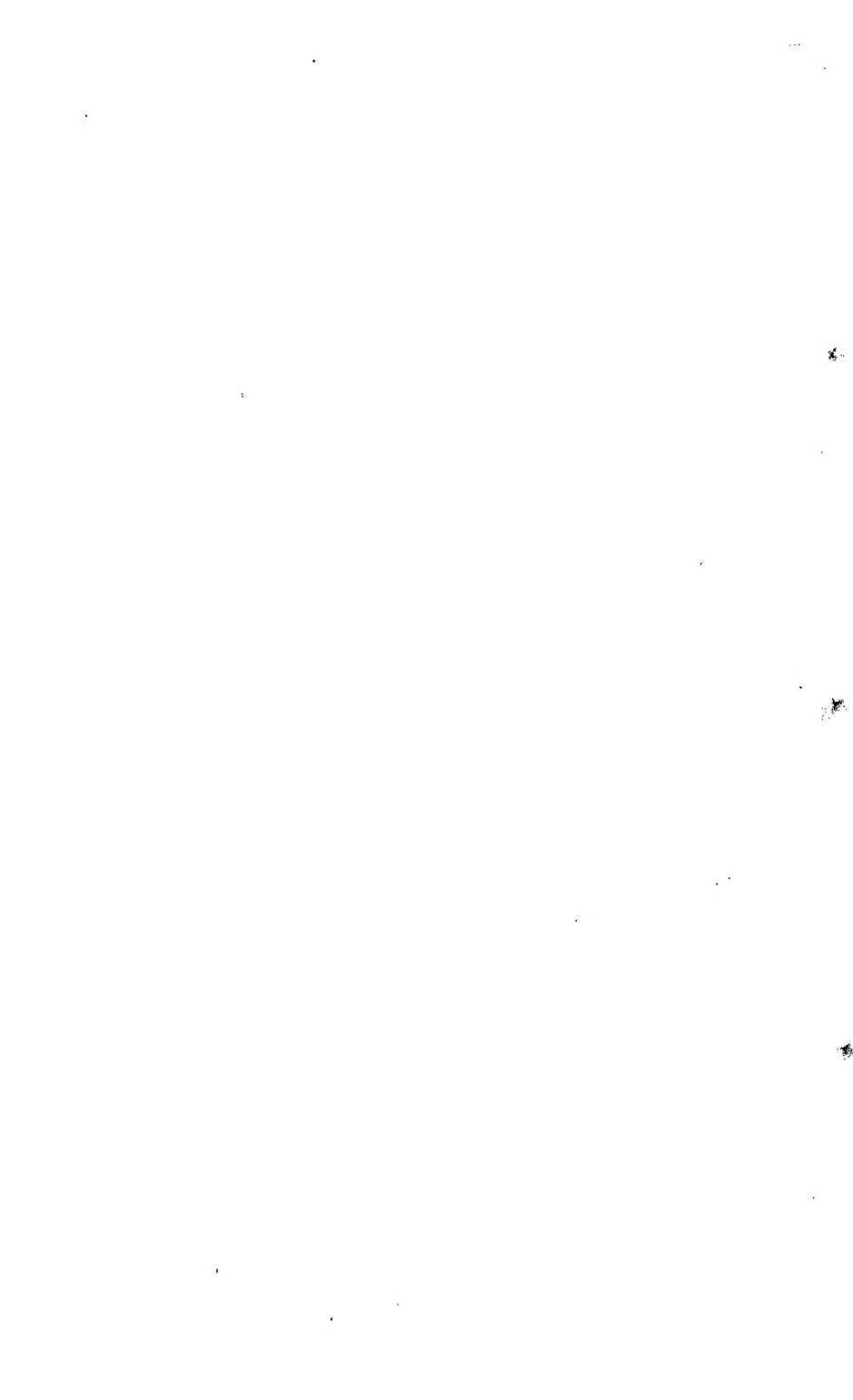


The Tomb-stone of Shu Shunsui.





The Tomb-stone of Shinyetsu.



deeply interested in gardening, and this was a convenient place, the famous garden was started. The prince made use of old trees standing as they were, and also formed designs as much as possible like nature. At the suggestion, moreover, of the Third Shōgun, he introduced water from the city aqueduct; and, in the designing of some of the hills and streams, is said to have followed the suggestion of Iyemitsu. Yorifusa, taking great delight in the work, entrusted the oversight and management to Tokutaiji Sabei, who was very clever in landscape-gardening. The work continued till the time of Mitsukuni, who consulted Shu Shunsui about several points. At that time it began to be called *Kōraku Yen* (After-enjoyment Park), in illustration of the Chinese saying: "Upright men should lament before the people lament, and take pleasure after the people are happy." After Tōfuku Mon-in⁸⁷ [Empress Dowager ?] asked for a map of that garden, and the Emperor, looking at the map, expressed great admiration of the garden, it began to be very famous. Hearing this, all persons praised it as an unequalled garden. After that, it showed improvement every generation. I [the writer] was allowed to enter this garden on the 28th day of the 9th month.

Near the entrance is a large lake around which trees and plants are beautifully arranged, and wild geese, well tamed, are swimming on the water. Crossing two stone bridges, we come to a Chinese gate, over which hangs a tablet, in the worm-eaten wood of which "*Kōraku-yen*" has been written in copper by Shu Shunsui. The hill on the right where many palms are growing is called Palm Hill; and on the left is heard murmuring between rocks a waterfall called *Nezame-no-taki* [Awaking-from-sleep Fall]. Passing on, as if along a dark mountain road covered with a thick forest, we ascend to White-cloud Hill, from which we

⁸⁷ 東福門院

can see the temples of Akagi and Tsukudo near by and mounts Miyogi and Haruna in the distance. At the foot there are rows of maple trees; this place is called Takita.⁸⁸

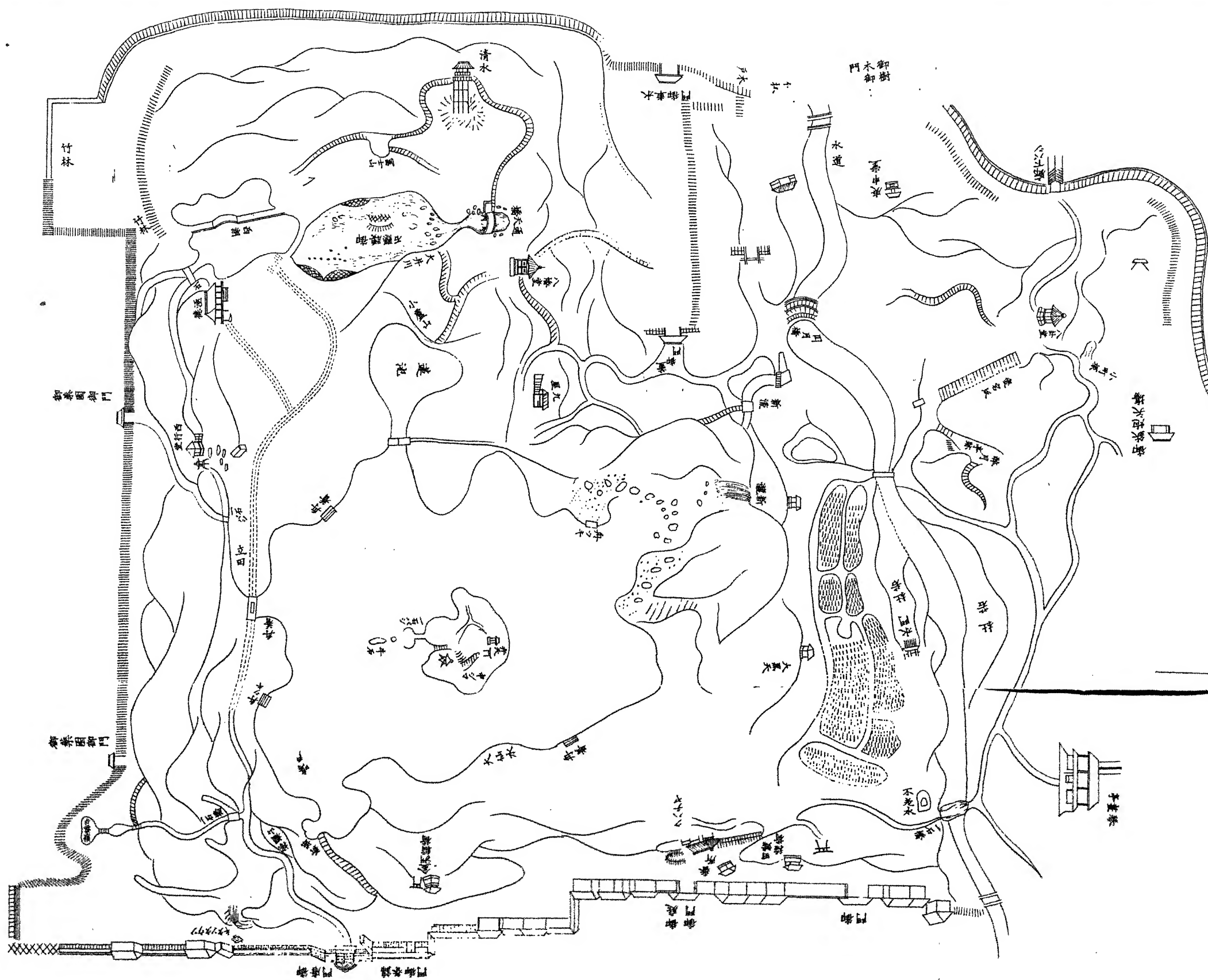
On the island of the largest lake is a shrine of Benzaiten [or Benten]; this island, called Elysian Isle [Hōraitō] is reached by boat. In the rushes on the left side of the lake is an Iuuri Shrine, which a princess of the Shōgun's family is said to have brought from the Imperial Palace. On that side is also a pavilion, in which is hanging a tablet inscribed with the words, *Ranshitsu*, or Orchid Room. This inscription was written by Tachihara, a famous Chinese scholar of Mito. Around that pavilion has been arranged a parterre of chrysanthemums, many of which, it is said, were brought from the Imperial Palace. Beyond that place many plants are well arranged on stands [and ?] in hot-houses. Although, as it is not the time of blossoms, it can not be definitely determined, yet they seem to be more than ordinary plants.

As we ascend a narrow way toward the left side, we climb a small hill on which is a small house covered with a straw roof; and here stands a statue of the great poet, Saigyō Hōshi, represented with a hat of split bamboo on his head, straw sandals on his feet and a stick in his hand. From this the really poor and humble condition of the poet may be imagined.

At a shallow part of the lake is built *Kwantokutei*, the tablet, or sign, of which was written by Hayashi Nobuatsu. If we look down from the balustrade, we see the stream, six or seven feet wide, running along "like a sash [belt]" on the stone pavement. This is crossed by a bridge of a single stone; and this bridge is called *Togetsukyō* ["Crossing-moon-bridge"]. It is said that these parts are in imitation of fine scenery in the western part of the western

⁸⁸ On the map it is called Tatsuta, a place famous for its maples.

後樂園之圖



The Koraku-yen.

metropōlis. A large stone on the shore is the place where the Third Shōgun took his seat when he came to inspect critically the scene.

Crossing *Togetsukyō*, and ascending Mount *Shōro*, we come to a red Buddhist temple called *Dai Hikaku*. If we look down from the gallery of the temple in this very high place, we see a water-fall striking the rocks, splashing and splashing, bubbling and bubbling. This is to wash off the dirt of the world; and the wind that blows up from the valley is to clear away the dust of the mind. A red bridge called *T'sūten* [Crossing-to-heaven] lies like a rainbow.

Tokujiindō [Getting-virtue-shrine] stands in a deep forest. The doors on three sides of it are in Chinese style, and are carved with various flowers and birds. In this are the statues of Hakuī and Shukusei.³⁹

A bridge, made of granite, and shaped like the surface of a drum, was designed in Chinese style by Shu Shunsui, and was made by Komabayashi. The balustrade also is made of granite. This bridge is called *Engetsu* ("Round Moon") because the shadow of the bridge upon the water makes a circle. Next we come to the *Hakkedō*, an octagonal building, on the eight sides of which the eight forms of divination are carved. In the time of Mitsukuni the statue of *Bunshōsei*⁴⁰ (Star of Learning) was kept there; but in the Kyōho period [1716-1736] it was changed to a statue of Kompira.

Leaving the road in the mountains, we come, in an open lawn, to *Kingatei* ("Harp-picture Pavilion"), [which, if we judge from this name, must have been devoted to the purposes of music and art]. From this point every part of the garden is visible. Under a pine-tree near the house is a well called *Furōsui* ("Never-grow-old water," or "Fountain of perpetual youth"). As there is a pine-forest here, this place is free from heat. On the shore many sweet flags, and on

³⁹ See Note G. ⁴⁰ 文昌星

the bank azaleas and *yamabuki*,⁴¹ are growing; and their blossoms, it may be imagined, are very beautiful in the late spring. Beyond is a rice-field; at a little distance is a shrine to Inari. Under a huge cedar-tree is a large stone lantern, presented by Nakayama, Prince of Bizen. The scenery of this place is beautiful in the time, not only of maples, but also of a snow-storm.

Next we arrive at a building called *Kuhachiya* (Nine-eight House),⁴² from which, as was the custom of *sake*-shops in olden times, are hung out leaves of cedar. Here the princes were sometimes accustomed to amuse themselves by watching the buying and selling of food and drink. Going on a little farther, we find a pavilion made of rough round timber. At the opposite side of a forest is a stone tablet to mark the spot where Bukō, [the seventh Prince of Mito, father of the famous Nariaki, or Rekkō], buried his beloved hawk. Far from this spot is the place where strange birds and beasts are kept, among them a white monkey that was captured deep in the mountains in a district of the Mito *han*.

Proceeding along a dark road, one feels as if he were entering a hermit's cave; but, having passed through the thick woods, he thinks that day has dawned, and feels as if he had come into another world. On the west Mount Fuji is in sight; as this day was cloudy, it could only be imagined to be white with snow. On the north side one looks upon extensive fields and the pleasure-giving scenery of a country-village. *Tōseimon*,⁴³ as its name indicates, is made of porcelain; and the door of it is lattice work of split bamboo. Here I [the writer] met the retinue of the Prince.

⁴¹ "The *Corchorus*, or yellow rose, the *Kerria Japonica*."

⁴² In the day-time *sake* is sold in a cup that holds 9 *bu*; but in the evening it is sold in a cup that holds only 8 *bu*: (cf. John 2: 10).

⁴³ "Porcelain-make-gate."

[NOTE G.]

Hakui⁴⁴ and Shukusei⁴⁵ were sons of a Chinese prince, and lived in the last year of the In dynasty, about 2,700 (?) years ago. Their father, loving the younger (Shukusei), wished to make him the heir; therefore, the elder (Hakui) went away from the province. But Shukusei, being a just man, refused to receive the inheritance, and followed his brother's example. The inhabitants of the province, by these acts of unselfishness, were left without a ruler, and chose another brother of these two as their prince. Hakui and Shukusei, upon the downfall of the In dynasty, fled together to a mountain, where, to avoid eating the grain of the next (Shu) dynasty, they subsisted on ferns.

Nariaki (Rekkō) once wrote of his ancestor, Mitsukuni (Gikō), that he "was a great admirer of Hakui and Shukusei, and followed their example." The following are the circumstances:—Yorifusa, the first Tokugawa Prince of Mito, assigning his eldest son to a less important fief, gave his Mito domains to his second son, Mitsukuni. The latter, against his wishes, was compelled by the *bakufu* to accept the position; but he at once adopted his elder brother's heir as his own heir and transferred his own son to the less powerful fief.⁴⁶

[NOTE H.]

One of his poems appears in No. 4 of the Annotated Chinese Readers used in the Common Middle Schools; it has been translated for me line by line, as follows:—

"RECOLLECTIONS."

"The nine provinces [of China] have crumbled like brick; [and]
The loyal subjects are barely sustaining their lives.
The Imperial order was received just when everything looked dark.

⁴⁴ 伯夷 ⁴⁵ 叔齊

⁴⁶ Vide "Transactions of the Asiatic Society of Japan." Vol. XVIII, Part 1, pp. 4, 9, 21.

I have come to this Eastern land without letting others know where
my footsteps are.

The plan of restoration has not succeeded ; [and]

A comet is shining brightly night after night.

A solitary person stays in a lonely island.

His loyalty compares with that of the subjects of Denwo.⁴⁷

But I hear that the Imperial order has changed ; [and]

Facing to the West, I sob alone."

Although this poem, like many similar 'productions,' is a little difficult to understand in some parts, yet it evidently is intended to portray the writer's despair over his inability to carry out his plans for the restoration of the Ming dynasty. The comet is probably taken as a sign of evil. The lonely exile can naturally have nothing but sad "recollections" of former days.

[NOTE I.]

The learned Prince Mitsukuni, who befriended the two Chinese refugees, outlived them both, and did not die till 1700. It may, perhaps, be a pardonable diversion from the subject to give a translation of the inscription that this prince wrote for a small tomb he had constructed at Zuiryū before his death.⁴⁸ This tomb, called *Bairi sensei no haka* ("The plum-village teacher's tomb"), still remains, just below the large tomb afterwards erected to his honor. The inscription, abounding in Japanese conceits, reads as follows :—

The teacher (*sensei*) is a native of Mito, Hitachi. His eldest son was feeble ; and his elder brother died young : so that he alone waited on his father in a respectful and

⁴⁷ A Chinese prince with 500 subjects, all of whom died under him [in exile?] on a solitary island [田 横].

⁴⁸ Vide Vol. XVIII, Part I, p. 21, of the "Transactions" of this society.

obedient manner. As for his character, he is not bigoted or dogmatic. Although he venerates Shintō and Confucianism, yet he is wont to criticize them; and, although he is an intelligent student of Buddhism and Taouism, he often attacks them. He likes guests, so that his gate is as crowded as a market-place. In his leisure he reads books, but does not require that they should be [perfectly] understood. Even pleasure does not gratify him; and grief does not trouble him. In the eve of the moon, and in the morn of flowers, taking the wine-cup, he indulges his appetite; singing poems, he humors his taste. Nice music, beautiful women, rich food, are not liked by him; an elegant mansion and rare furniture are not his aim: he is content with either affluence or indigence.

From his youth he intended to write a [Japanese] history; but, as reference books were scanty, he first sought for and bought as many as possible. Even a novel or a narrative was carefully read. The aim was to present *facts* and to exclude doubtful matters. Having declared for the real Imperial line, and having criticized ancient [so-called] loyalists, he naturally formed original opinions.

In 1690 he "asked for his skeleton."⁴⁹ Before this he had adopted his nephew and made him the heir [of the principality]; now he consigned all the dominion to him. In such a way his long-cherished object was fulfilled. After a time he returned to his village, and, by his father's tomb on Mount Zuiryū, buried all his old official robes and built a tomb called "the plum-village teacher's tomb." Ah! Here his spirit is to rest eternally! But his body is to be cast where it is destined; if in water, it is to be given to fishes and turtles; if on a mountain, it is to be given as food to fowls and beasts. Hence there is no use even of "the spade of Riūrei."⁵⁰

⁴⁹ That is to say, "he resigned."

⁵⁰ See Note J.

The stanza says : "Though the moon hides in the clouds of Zuiryū, yet its light remains for a moment on the peak of Nishiyama." ⁵¹ The person who built this tomb and wrote this inscription, is Minamoto no Mitsukuni, Shiryū.

[NOTE J.]

Riūrei was a famous Chinese scholar, who was attached to the doctrines of Laotse, and liked to drink wine. He once said : "When I die, I shall not need any funeral ; only a spade will do, which will dig up the earth in the place where I may fall." Inasmuch as Mitsukuni's body was to be given, either "to fishes and turtles" or "to fowls and beasts," there was no need even of Riūrei's spade to dig him a grave.

[NOTE K.]

Since the above was written, I have learned, that, in the Mito *han*, there was one more Chinaman, named [Tanikawa] Kinkei,⁵² who is thought to have been only a servant of Shu Shunsui. It is also said that Mitsukuni invited to the hospitality of his clan still another Chinese scholar, named Chō Hi Bun,⁵³ and sent a messenger to Nagasaki after him ; but he was refused permission by the *bakufu* on the ground that two Chinese should not be in one *han* at the same time.

[NOTE L.]

The inscription on the front of the monument to Kusunoki Masashige at Hyōgo is said to have been written by Mitsukuni, Prince of Mito ; that on the other side was

⁵¹ Vide Vol. XVIII, Part I, p. 9, of the "Transactions" of this Society.

⁵² 金鵒 ⁵³ 趙斐父

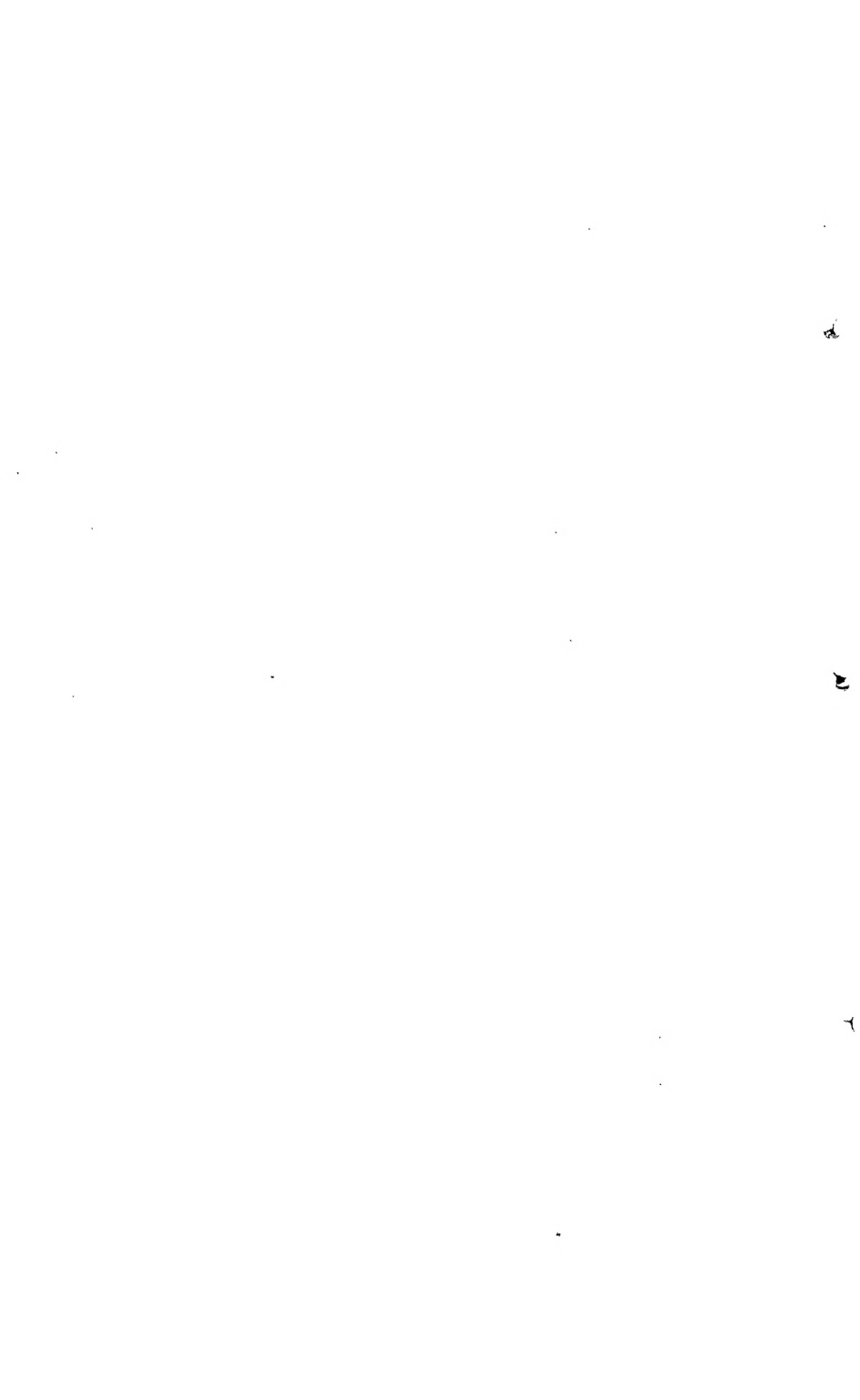
表

嗚呼寇臣楠子之墓

裏

忠孝著乎天下日月麗乎天地無日月則晦蒙否塞人心廢忠孝則亂賊相尋乾坤反覆余聞楠公諱正成者忠勇節烈國士無雙蒐其行事不可概見大抵公之用兵審強弱之勢於幾先決成敗之機於呼吸知人善任體士推誠是以謀無不中而戰無不克誓心天地金石不渝不爲利回不爲害怵故能興復王室還於舊都諺云前門拒狼後門進虎廟謨不臧元兇接踵構殺國儲傾移鐘虜功垂成而震主策雖善而弗庸自古未有元帥妒前庸臣專斷而大將能立功於外者卒之以身許國之歿靡他觀其臨終訓子從容就義託孤寄命言不及私自非精忠貫日能如是整而暇乎父子兄弟世篤忠貞節孝萃於一門盛矣哉至今王公大人以及里巷之士交口而誦說之不衰其必有大過人者惜乎載筆者無所考信不能發揚其盛美大德耳

右故河攝泉三州守贈正三位近衛中將楠公贊明徵士舜水朱之瑜字魯璵之所撰勒代碑文以垂不朽



written by the Chinese refugee, Shu Shunsui. An illustration of the two inscriptions side by side accompanies this paper. The following is a free translation of Shu Shunsui's composition :—

“Loyalty and filial piety prevail in the universe ; and the sun and the moon shine clearly in the sky. If there were no sun or moon in the universe, confusion would prevail in the world and stop everything. If the human mind should abandon loyalty and filial piety, heaven and earth would turn upside down. I hear that Masashige Nankō is a patriotic, brave and determined citizen, who has no equal ; that his conduct is what no one could anticipate. When he uses an army, before he fights, he examines the strong and weak points on both sides, and in a single breath he catches the points of success and failure. Learning well a person's real worth, he assigns a proper position, and, treating him kindly, puts his own heart into his bosom.⁵⁴ When he fights, he is always victorious. Since his mind is as constant as heaven and earth, and his resolution as hard as metal and stone, no injury could cause even a little fear, and not even his own advantage could shake his fidelity. By this he restored the Imperial government to the old city. But, alas ! as the proverb says, ‘ if we resist a wolf at the front door, a tiger will get in at the back door.’ The administration of the new government was faulty. Rebels rose in succession ; the Prince Imperial was killed ; and the Imperial House was again whirled into a crisis. At that time, although his plan was good, and almost succeeded, yet it failed. From olden time there has been no great general who was not hated on account of his promotion and because foolish subjects showed their selfishness : and in this situation is there any general who could succeed ? At last he sacrificed

⁵⁴ He does not underrate—he trusts.

himself. Before his death he very strictly enjoined his son to strive for the Emperor; but not a word [did he speak] for his own family. Unless his loyalty were so great as to reach to Heaven, he could not act so. His son and brothers in succession were all loyal, faithful, patriotic: his influence is shown in this family trait. From the highest to the lowest, all praise and applaud him, because he was a superior man. But I am sorry that no biographer has tried to write accurately about him, and none could show his supreme virtue more clearly.

“Panegyric of the Imperial Lieutenant-General Nankō, ex-Governor of Ka, Setzu and Sen, by Shunsui, Shu Shiyu, also named Royo, called citizen of Min.

“Carved on the stone-tablet, and left to the future.”

* * * * *

The inscription on the front of the tomb is sad and simple: “Alas! loyal Kusunoki’s tomb.”

AINU WORDS AS ILLUSTRATIVE OF CUSTOMS
AND MATTERS PATHOLOGICAL, PSYCHOLO-
GICAL AND RELIGIOUS.

BY THE REV. JOHN BATCHELOR, F.R.G.S.

[Read April 28, 1895.]

Of the seventeen Ainu words here brought forward as illustrative of Customs and matters Pathological, Psychological and Religious, the *first, tenth, thirteenth* and *seventeenth* are perhaps the most interesting, though it is hoped none will be found to be without their value.

I thought many years ago, when I first came into contact with and commenced to study the Ainu, that my lot had indeed been cast among a peculiar people. That opinion has been confirmed and is still being more strongly confirmed day by day. A perusal of the following paper, which the student may see with half an eye might be carried on almost *ad infinitum*, will prove, I think, that my opinion is true, and that this is not a race of people which may be understood in a day. However, it is hoped that the matters here treated may tend in a measure towards a more thorough knowledge of this interesting race, and give some little insight as to what the people are in their inmost thoughts, and what underlying motives propel them to their peculiar action.

INDEX OF WORDS AND SUBJECTS DISCUSSED.

- 1.—EPIRU, *i.e.* "To brush out."
Subject:—Exorcism and supposed influence of vegetable life upon animal.
- 2.—WAKKA PURURUSE, *i.e.* "Water blowing."
Subject:—The use of water as a cure.
- 3.—IYOMANDE, *i.e.* "A sending away."
Subject:—Rationale of the bear festival.
- 4.—KATKEN, *i.e.* "The water ousel."
Subject:—Supposed psychological influence of eating the heart of one kind of animal upon the soul ($\psi\chi\eta$) of another kind.
- 5.—ESAMAN SAMBE, *i.e.* "Heart of the river otter."
Subject:—Supposed influence of the heart ($\kappa\alpha\rho\delta\iota\alpha$) of an animal of one genus upon the body of another.
- 6.—CHIRONNUP, *i.e.* "The fox."
Subject:—Supposed power of spirit ($\pi\nu\epsilon\upsilon\mu\alpha$) of a dead animal upon the living for their temporal good.
- 7.—SETA-PAGOAT, *i.e.* "Dog punishment."
Subject:—Supposed power for harm of the spirit ($\pi\nu\epsilon\upsilon\mu\alpha$) of one genus upon that of another.
- 8.—SHIRIKAP, *i.e.* "The sword-fish."
Subject:—Fish-worship; appearance of a sea devil.
- 9.—SURUGU, *i.e.* "Poison."
Subject:—A new ingredient discovered.
- 10.—CHIKAPPO-CHIKOMESUP, *i.e.* "Little carved birds."
Subject:—Fetich Worship.
- 11.—CHIUKOPOYE RERA, *i.e.* "Whirl-wind."
Subject:—Demons supposed to reside in the winds.
- 12.—HUP, *i.e.* "Boils."
Subject:—A grain of Ainu comfort for those afflicted with boils.
- 13.—SHOTKI-CHUPU, *i.e.* "To fold the bed up."
Subject:—Parturition.
[Note on Birth, Marriage and death.]

- 14.—PARO-A-OSHUKU WA HOSHIPIRE MARAPTO, *i.e.* "The feast of being sent away, the mouth having been cooked for."

Subject:—A curious way of getting rid of a guest.

- 15.—MATAHUPKARA, *i.e.* "Taking a wife."

Subject:—Marriage with a deceased brother's wife-customary; two sisters forbidden to marry two brothers.

- 16.—IMU, *i.e.* "A kind of hysteria."

Subject:—Curious effect of being bitten by snakes.

- 17.—ISHIRISHINA, *i.e.* "To bewitch."

Subject:—Bewitching.

APPENDIX.

- 1.—The elder tree.
 - 2.—Daphui-phylum.
 - 3.—Rasupa ni.
-

The first word to which I would draw your attention is:

I. EPIRU,

(*To brush out*).

This is a word the bare mention of which plunges one at once, and without the least warning, headfirst into the very centre of a vortex. It brings us face to face with as stupendous a mixture of pathology, psychology, religion, and that disease of religion we call superstition, as one would ever wish to see and attempt to analyze. One wonders indeed how the Ainu having once been drawn into this psychical whirlpool can ever come through and out of it sane or alive. In one moment it reminds us of the physician and the wonderful ideas he has of the nature of disease and the remedies he thinks proper to use in his therapeutic practice,—in the next of the remarkable way in which he looks upon the soul in its nature and life,—in the next again we are reminded of the family

priest or village chief praying to his gods and storming at the demons,—and lastly we see the medicine man with his charms practicing exorcism. All of these subjects, together with their concomitant suggestions and necessary issues, are brought before the eye of our mind by this simple little word *Epiru*, “to brush out.”

Let me explain. In some rare cases of sickness the Ainu perform a peculiar ceremony known by the various names of *Epiru*, i.e. “to brush out”; *Uwepiru*, “to brush out for one another;” *Kashike-kik*, i.e. “to beat upon;” *Okakik*, “to beat upon one another,” and *Uwepotara*, i.e. “to doctor” or “exorcise”. In the execution of this ceremony four things are necessary,—a bunch of herbs,—a sickle,—a strong and sound tree,—and a change of clothing; the person who performs the rite must be either the chief of the village, a recognized medicine man, the head of the family, or the sick person’s father or near relation. The medicine man or family representative, i.e. the male head of the line, are by far preferable to anyone else, the chief or father not excepted. In explaining this ceremony I think I cannot do better than first state as nearly as possible the facts as they occurred leaving all other matters as of interpretation and comment till the end.

There was a lad with whom we were very well acquainted, living in a certain Ainu village with us, whose age was about six years. This lad was suddenly seized with illness. The malady took the form of a kind of paralysis or epileptic fit, for the lad lost the power of speech and the use of his arms. Sometimes indeed he would reel like a drunken man and even fall down. He was at times in danger of falling into the fire or into the river or sea, so that he had to be constantly watched, and one never knew when these reeling fits would come on. Sometimes his pulse was strong and normal and at others weak and slow; he was sometimes in fever and at other times quite cold. Moreover, he did not, for the most part, appear to recognize

anyone. Some of the Ainu said he was possessed of the devil, and others said he was attacked by worms. The former opinion, however prevailed.

A Japanese doctor was called to see the lad and he provided medicines for about six weeks. But all his remedies were useless so far as could be seen. The parents of the child therefore called a grand council of the family and elders of the village and decided that he was possssed by a demon and that the possession took the form of madness. The lad was therefore said to be *chiitasare*, i.e. "changed," "crazy." It was also decided that he must be exorcised, for it was evident that the doctor's medicines could not touch the demon. Japanese and foreign remedies had failed, Ainu prayers and religious ceremonies must now take the field.

This then having been decided on by the elders and family representatives in their collective wisdom, the oldest male of the family line was called in. *Inao* were reverently made and offered to the goddess of fire, who was called on this special occasion *Iresu huchi*, i.e. "the ancestress who rears us." Libations were then poured out to the fire and various other household dieties, *sake* was drunk and prayers devoutly said. All of this took place in the presence of the lad in his father's house and on his behalf. It was absolutely necessary that the child should be present throughout the whole ceremony, for he had to be constantly pointed out to the deities as the special object for which request was being made.

A bundle of clothing had been made up in the meantime by the women and placed by the side of the Ainu officiating at the ceremony, and although the rest of the people were dressed in their better clothing the lad to be exorcised had his ordinary everyday clothes on. After the prayers had been said the exorcist took the bundle of clothes and a sickle, and went far away into the mountains with the lad and the lad's father. Having arrived at a fitting place the

child was placed under a fine and perfectly sound oak tree. The exorcist then went and cut two bunches of mugwort (*Artemisia vulgaris*, L.) called in Ainu *Noya*,* which when made up into bunches is named *takusa*, i.e., "tassels."

The tassels or bunches of mugwort, then, together with the sickle, having been placed near the lad and the lad having been made to stand near the oak tree, the exorcist next proceeded to worship the Creator of all things and all his angels and servant-deities, asking them all to hear his prayers and grant his special request. He next turned to the tree and worshipped its spirit or genius. He called it a strong tree and stately, and asked that some of its strength and stateliness might come into the child. He called it a beautiful and hard tree and asked it to impart some of its beauty and durance to the subject of his prayers. He called it a tree of long life and asked it to graciously grant part of its living virtue to the all but dead child. In short, he was asking the genius of the tree to be to the body of the lad what it was supposed to be to the stem and branch of the tree.

After this he took the sickle and cut the lad's clothes down from top to bottom, while on, in various places, particularly down the back, breast and arms. He then took the bunches of mugwort and beat the lad all over with them and stroked him down from head to foot. It is from this act that the ceremony is sometimes called *epiru*, i.e. "to brush out;" and at others *kashihe-kik*, i.e. "to beat upon;" for the lad is hereby beaten and the demon of disease brushed out. The clothes were cut in order that the demon might find a way of escape, but where it went to is not known. The lad was next stripped of his clothes, again beaten and brushed then dressed in the clothing brought for the purpose and taken home. He had been exorcised, the

* See Transactions of this society, Vol. XXI. page 206, No. 19 and page 222, No. 78.

demon was gone. There is nothing more now to be done for him; if the gods have heard the prayers and made the ceremony a blessing to the lad, he will get well, and if not he must die. The Aiuu have done their part; they now leave God in nature to perform His. The old clothes and bunches of mugwort were left at the place of exorcism, but the sickle was brought home for future use either in a like ceremony should an occasion arise, or in the ordinary work of the gardens, for there appears to be no special sanctity attaching to the sickle through its use at this ceremony. When the party arrived home they were all brushed down with tufts of sedge after which they entered the hut and washed themselves.

That part of the ceremony immediately following that in which the cutting of the clothes takes place is said to be especially called *urepotara*, i.e. "exorcism." I suppose this is so because it is immediately after this that the demon is brushed and beaten out. And surely the demon must have been sent away, in this case, for the lad came home and was quite well within a year! Hence the people in that village had an ocular demonstration of the mighty power of their own remedies as pitted against the Japanese doctor and the use of foreign medicines. The actual cutting itself is called *apetu* (*sing*) and *apetpa* (*pl*) and really means "to slit."

Why the sickle is used in cutting the clothes when exorcising a person I cannot yet discover, but I hope we may get a ray of light thrown on it some day or other, for such things I find have usually some hidden significance in them when used for special purposes. The bunches of mugwort are used because it is thought that demons of disease dislike the smell and flavour of this herb. That the various varieties of this plant are used both as food and medicine has been shown elsewhere. The oak tree is used in preference to others because its wood is more hard and durable, but if an oak is not available the next hardest tree may be selected.

It may be supposed that this tree worship is a sure indication that the Ainu are pantheistic in their religious belief. But here I must warn you to be on your guard for it is not so in reality. Pantheism is the doctrine which maintains that the universe is God and that the various unities and items in the universe, whether spirit or matter, organic or inorganic, living or dead, are but individual parts of the whole. This idea is quite foreign to the Ainu. They do not, as in the case under discussion, worship the tree but the spirit who resides in the tree, and who is looked upon as quite separate in nature from that of the tree. Every kind of spirit whether it be that of the gods or demons, or of men, or of the lower animals or reptiles, or of trees in all their orders and varieties, or of herbs and grasses, each *kind* of spirit, I say, is and remains a separate kind, and every *unit* of a kind ever remains so, and each and all are distinguished from the body in which they appear. And wherever you see life under any form whatsoever there you must take spirit for granted, for spirit and life are to the Ainu of the same essence and nature. Thus it is that the world beyond the grave is looked upon by this people as a counterpart or duplicate of this only very much better. Things are not there merged into one another and eternally swallowed up as in Nirvana. Each unit and item retains its own individuality and identity. The principle therefore underlying the tree worship is rather polytheistic than pantheistic.

It may perhaps be concluded from all I have now said that even though the Ainu do not believe in pantheism they believe in something which is next door to that doctrine and which is commonly understood by the term metempsychosis. But if by this word is meant transmigration of the souls after death from one animal body to another as a punishment for evil deeds or a reward for good ones it is evident, and clearly evident, that the word does not apply here. We have a tree and a lad, each belonging to a separate kingdom

and both living. Moreover, there is no question of reward and punishment involved. I will therefore just repeat here what I have affirmed elsewhere, that with reference to the human soul the Ainu do not believe in the old Egyptian and Brahmanic doctrine of its transmigration into higher or lower orders of being.* Further, prayer was made to the spirit of the tree asking its life, strength, and soundness of body to go into the child who was exorcised. The idea was psychological and spiritualistic. The Ainu was in fact praying for the child to be partially possessed by the tree so that he would in degree appropriate certain of its attributes ; namely those of strength in limb and soundness in body as well as that which is associated with these qualities, longevity. We thus find that the *kind* of transmigration here sought was not that of the human soul with the object of its purification or reward, but of a supposed dryad or tree genius for the purpose of bettering another body, the body of the boy, and this was to occur not after death but during life.

2.—WAKKA PURURUSE.

(*Water blowing*).

It was mentioned just now that on returning to their home the party who had been attending the ceremony of exorcism washed themselves. That was the last act of the

* I feel called upon to emphasize this fact in this place because that most unscrupulous and unreliable writer, Baron Munchausen the Second, has in one of his productions entitled "The Hairy Ainu" taken upon himself, after a few weeks' acquaintance with this people, to contradict me on this most abstruse point as well as call in question several other matters of fact published under my name in the Transactions of this Society.

ceremony and its signification was that of purification simply. I have made inquiries of the Ainu with a view to ascertaining whether they invest water in itself with any special life. But beyond containing nymphs or mermaids both good and bad, and which they call *Mintuchi*, the Ainu do not invest this element with spirit life. Still, in working bodily cures water is thought to be of great efficacy and is much used. When persons faint, for example, or are at the point of death, water is freely blown over them from the mouth. This is called *wakka pururuse*, i.e. "water blowing." Sometimes, however, when more water is required it is poured upon them out of a ladle or bucket, or sprinkled over them with the hand or a bunch of spray wood or grass. I am afraid, however, that common sense is not always exercised when applying water as a remedy. Note for example the following instance:—

A young man of my acquaintance one day fell from his horse and was left upon the path in a state of unconsciousness. As the event proved, he had three ribs broken. In order to restore him to consciousness water was applied. I was informed by the lad's uncle that before he came to, three buckets of water were poured over and sprinkled upon him. Poor lad, the wonder is that he did not die of kindness.

3.—IYOMANDE.

(*A sending away*).

Although the Ainu do not believe that the human soul goes into any other than a human body either during this life or in the next, yet they believe that the spirits of animals and birds when killed appear again clothed in a body. But no metamorphosis takes place. The body any spirit can ever have is always of the same kind as its previous one.

Of course you will understand that I do not now speak of possession by the spirits of demons, for this is abnormal¹ and in no way natural. But I am here speaking of things as the Ainu considers them to be naturally. Thus, if a body is killed as a bear it returns as a bear, or if as a sparrow it will return as a sparrow; and both will be in the next world what they are in this.*

The word *iyomande* may be said to mean "sacrifice," for it is the general name given to the semi-religious festivals in which animals and birds are killed. It is, however, particularly used to designate the bear festival. It is a fact well known to the public that the Ainu rear bear cubs for sacrifice, but it is not so generally known, I believe, that foxes, wolves, racoons, eagles, hawks, crows, jays and even sparrows, are also reared and used as victims in sacrifice. I have seen all of these animals and birds being brought up in cages for this very purpose.

Why, it may be asked, are they so offered? To this I frankly admit that I do not know the original Ainu motive. I have made very many inquiries among the people, both of Christians who have now given up the practice, as well as of men still addicted to it, but no one appears to know, and I do not consider it my place to guess. So far I have found no idea of substitution underlying the practice, nor do the people know anything about the shedding of blood for the remission of sins. The old Jewish ideas of sacrifice are certainly quite alien to the Ainu mind, though it is of course possible that the idea of substitution, pardon, and propitiation through the victim offered may in by gone days have been at the foundation of the practice. But until I hear some explanation directly from the Ainu themselves or discover it in their vocabulary of words or actions I can say no more about it.

* See Journal of American Folklore, Vol. VII. page 16. (a).

When an Ainu sacrifices his victim he seems to me to have the good of his body in mind rather than that of his soul, for he slays and eats the body of one beast that another may come in its place to be treated in like manner! I have been told by several hunters, and these are the men who generally rear bears and other animals for sacrifice, that when they kill the victims and send them away to their ancestors, they go back to their haunts in the mountains and re-appear after a time. Moreover, in the prayers said to them at the time of sacrifice they are usually requested to come again and provide viands for another feast, as if indeed they were honoured by being slain! But mark this, the body any victim again comes in is of the same species belonging to the same genus as when it was previously sent away or offered. This it will be seen, is neither metempsychosis nor metamorphosis in the ordinary meaning of those terms. It is the idea of sending the bear to the mountains that it may return at some future time which gives the name *iyomandz*, i.e. "a sending away," to the festival.

I have on several occasions expressed my disbelief in what has been stated as fact by many Japanese and Ainu as regards the rearing of bear cubs. I refer to the statement that the women bring up young bear cubs at the breast. I have often said that such women must be very scarce for I had not seen them do so though I had seen them fed in various other ways. I now find that I must modify that remark of mine, for I have during the last few years seen several women giving their breasts to bear cubs. Only last year while I was preaching at one end of a hut a group of women were sitting in a circle at the other passing a young cub round to be nursed a little by each woman in turn.

The semi-transmigration of spirits, more particularly those in the animal kingdom, is, according to Ainu belief, carried out to an almost unlimited extent, though the fact

must be looked upon more in the light of possession than anything else. I will give an example or two to show this.

4.—KATKEN.

(*Water-ousel*).

I was one day out with an Ainu trying to shoot something for our larder, and on my way brought down a water-ousel. The Ainu begged me to give him its heart; I asked him why, and he then explained that if he took out the heart and ate it raw and while warm he would be able to stand fatigue, would wax eloquent, and would be able to shoot as straight and quickly as I did on that occasion. I granted his request and he ate the heart; but I find that he gets tired just as soon as he used, shoots no straighter and is no more eloquent than he was before though he himself thinks he has improved in all these respects. Why the spirit of the water-ousel should have this particular power to act on the soul of man rather than that of any other bird I was unable to find out. All this man could tell me was that the fact had been taught him by his fore-fathers, and I certainly find the same idea universal among the Ainu, though the kind of birds vary, the heart of one bird being considered good for this purpose and the heart of another good for that.

5.—ESAMAN SAMBE.

(*Heart of river-otter*).

But not only have the fresh, warm hearts of some birds (and I suspect of some animals also) a supposed virtue in them if rightly used, but I find that the dried heart of the

river otter is considered to be a power against disease. On August the 11th of last year I was asked by an Ainu to take a small parcel containing the dried heart of a river otter to a certain place to which I was going as the people desired to use it as an antidote against cholera then said to be raging near. Upon asking how it was to be used in case I should find it necessary, I was told that small portions were to be boiled and swallowed with the water it was boiled in. Cholera would not come near me if I did that. This article is used as a charm to keep the disease off rather than as a remedy to cure it when attacked. It differs therefore from the use of the *galls* of animals, which are used entirely as medicine.

6.—CHIRONNUP.

(*Fox*).

Another illustration of the action of spirit upon spirit differing indeed in kind but not in nature is afforded by the following occurrence. I was on a certain occasion out with an Ainu trying to shoot my dinner, and as we were going along we chanced upon the foot tracks of a fox in the snow and I asked the Ainu whether we should go for it first and get its skin and then seek for food. He said no very decidedly, not if I desired to get a hare or some ducks. Upon asking him what that had to do with it, he said that if we killed the fox first we should certainly get nothing else that day for the spirit of the fox would, if we killed the body, travel round and let all the other animals and birds know that we were coming! I therefore had respect for his creed and went after a hare instead. In a conversation with this man afterwards on the subject he told me that all hunters in ancient times, if, when they

went hunting, they killed a fox first they always tightly tied up its mouth to prevent the spirit from going to warn others, and I find that many do this even at the present day.

. 7.--SETA-PAGOAT.

(*Dog punishment*).

I mentioned incidentally in passing just now that according to the Ainu ideas the spirit of one genus may possess the body belonging to the spirit of another genus. This possession constitutes what we might designate bewitching by the lower animals. The natural spirit of the person bewitched is not indeed taken away or destroyed, but for the time being has been superseded and is used as the foundation for the alien spirit to work upon. Thus the spirit of any animal may, as a punishment, and should there be an adequate cause bewitch any person. And the person so bewitched will exhibit in his actions and speech the characteristics of the animal bewitching him. If a bear bewitches a person he will growl like a bear; if a cat, he will mew, and if a dog he will bark.*

* See Journal of America Folklore, Vol. VII. page 36. (c).

I have heard the belief in this doctrine used as a means by which to prevent cruelty to animals. The special case I now have in mind is that in which a person was cruel to a dog, and who was only prevented from killing it through another telling him that unless he was careful there would be the *seta-pagoat* in store for him. That is to say, he would be bewitched by a dog, would bark, pine away and finally die. The proper cure for a person bewitched is to eat a portion of the flesh of the kind of animal bewitching him; or, should this fail he must be exorcised as shown under *Epiru* above.

8.—SHIRIKAP.

(*Sword-fish*).

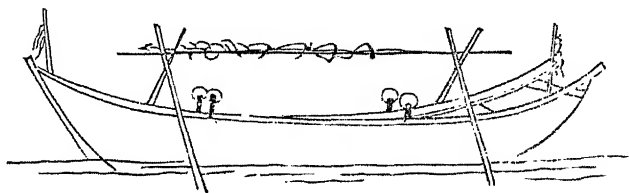
In speaking above on the subject of the *iyomande*, i.e. "sending away," festival I mentioned that the spirits of birds and animals were worshipped. They are sent away by being killed and invited to return and afford another feast later on. The same sort of thing takes place after catching the sword-fish. There is not indeed the killing to be done for that was accomplished by the harpoon at sea, but there is the feast to provide and the spirit of the dead fish to be asked to return on some future occasion for the benefit of the people. In explaining this matter I will give you another of my experiences.

On one occasion I had intended to lecture and exhibit a magic lantern in a certain Ainu village. The chief of the village in question happened to be travelling by the same route as I, and it was arranged as we went along that the meeting should take place in his hut.

Upon arriving at the village and disposing of our paraphernalia, we went to visit the people and make preparations for our meeting. We found, however, that it would be impossible to have a gathering that evening because a large number of the men were at sea spearing sword-fish, while the women and children were busy keeping up beacon fires along the sea-shore, and waiting to assist their husbands and fathers to land when they returned. We were therefore obliged to put off our meeting till the next evening.

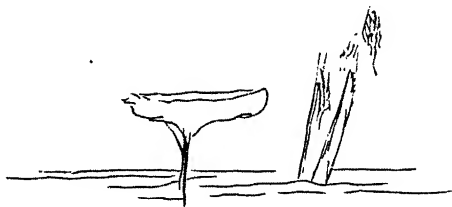
On looking about us we soon discovered that many of the Ainu had been successful. The boats themselves told us that, for when the men have been fortunate enough to spear a sword-fish they dispose of their fishing tackle in a particular way and ornament their boats with *inao*. The process is as follows:—The boat is drawn a good way inland, well out of the way of the tide; the bow being

placed facing the sea ready for relaunching when required. The four oars are then stuck into the ground and tied together in pairs at the upper end and made to lean over the boat so as to form a sort of long tent, one pair of oars being placed at the bow and the other at the stern. A long pole which the Ainu use to assist in pushing the boat along when in shallow water is then laid across them in such a way as to reach from stem to stern of the boat, as shown in the accompanying illustration.



Boat of successful fishermen.

The fish-spear and harpoons, together with the ropes and lines, are laid upon this pole. After this has been done, Japanese alcohol, sold in bottles, is procured, (or was indeed in this case) one bottle for each oar. In the meantime the head of the sword-fish has been cut off and stuck into the sand by the snout for worship and also as an offering to the sea-god, though after being offered and worshipped it is divided up and eaten.



Sword-fishes' head cup up for worship.

After the alcohol has been procured the indispensable *inao* are made and stuck in the ends of the boat and

upon the sea-shore, and prayers are said to the sea-god and also to the spirit of the slain sword-fish; the sea-god is thanked for the assistance he has given in catching the fish, and the fish is thanked for having been caught, and is asked to come again. Libations of this dreadful alcohol are also freely partaken of till it is all gone and the result is drunkenness of course and in many cases blind, dead-drunkenness. When the bottles are emptied they are turned bottom upwards and stuck on the rowlock-pins of the boat, one bottle on each pin.

After inspecting the boats we returned to our hotel fully expecting to hold our meeting the next day. But we were doomed to disappointment once again. On inquiring about the matter in the morning we found the whole village under a cloud. Three men, it was said, were out trying to catch a sword-fish when all at once a great sea-monster with large staring eyes appeared in front of them and proceeded to attack the boat. A desperate fight ensued. The monster was round in shape and emitted a dark fluid which had a very powerful and noxious odour.* The three men fled in dismay, not so much indeed for fear, they say, but on account of the dreadful smell. However that may have been they were so scared that the next morning all three refused to get up and eat; they were lying in their beds pale and trembling.

Such a dreadful thing having happened it was utterly hopeless to think of doing anything in the way of lecturing that day. The chief himself told me that he was holding a grand consultation with his men that very day at noon to consider the matter. Prayers would have to be said, the mystery solved, *inao* made, libations of wine drunk, the good god of the sea worshipped and asked to drive the

* The men say it was a devil; and I am inclined to think from the description that it was really a "devil-fish."

demon away, and a certain very particular ceremony performed in order to make it safe to proceed with the fishing. I had seen this kind of thing before and knew what such a ceremony meant. It meant a beastly drinking carouse; I therefore packed up my traps and left.

When speaking above of the bear hunter and his sacrifice I was reminded of a new discovery I have made with reference to the poison used in killing bears and deer, and I take opportunity of transmitting the matter to the society.

9.—SURUGU.

(*Poison*).

It is a well known fact that the poison the Ainu use on their arrows when hunting bears consists for the most part of the pounded roots of the aconite or monkshood. It is also well known that some hunters mix smashed spiders and sometimes tobacco and capsicum juice with it to render it as they suppose more quick and sure in its operation. But now I find that monkshood, smashed spiders, tobacco and capsicum juice are not the only ingredients used in making up this poison. The poisonous part of the Jack-in-the-pulpit or *arisoema* * is also used. This is extracted from the bulb with a knife and pounded into paste. Before being mixed with the aconite it is tested by placing a small portion at the base of and between the third and fourth fingers of the left hand. If kept there for a short time, say ten or fifteen minutes, a tingling and burning sensation will be

* See Transactions of this Society, Vol. XXI, page 233, No. 128.
Rau-rau.

experienced. The strength of this poison is measured and known by the degree of pain thus given. I kept a little of it between my fingers one day for ten minutes to test the truth of this assertion and I felt quite a tingling sensation for twenty-four hours after ! Why the test should be applied to the left hand rather than the right I was unable to find out.

The Ainu are particularly careful not to allow the arisœma to touch their lips or tongue, for should they do so all the skin will quickly peel off and cause no end of pain and trouble. To test whether this were true or not I one day procured some of the root of this plant and chewed a small portion for a few moments. At first I felt nothing, but I very soon had cause to be sorry for the trouble of doing so. I shall never forget the painfully burning and pricking sensation I experienced for half an hour or so after. I should imagine this must be a very cruel and painful kind of poison.

But this is not all. The Ainu think they have discovered an insect even more deadly poisonous than the spider is supposed to be. They call it *worunbe*. It is the water-bug or water-scorpion. Both the Notonectidæ and Nepidæ families of these Heteropterous insects are supposed by them to be poisonous, though the former are considered to be more deadly than the latter and are therefore used in preference.

On my first visiting the Ainu, now eighteen years ago, the people always examined the water when I asked them for a drink from any rivulet or stream while travelling through the forests. They would never allow me to drink water taken from a running stream unless they had first well examined it. This was to see that there were none of the insects above referred to in it, for the Ainu are very much afraid of their being swallowed. A certain and very painful death they say is the penalty a person must pay should he swallow one.

Both the Aconite and Arisœma, the aconite mostly, are known to have been administered in food with the intention of murder. Yet, it is very curious and well worthy of remark that some Ainu mix the leaves of the aconite with their tobacco and smoke it. They also bake the bulb of arisœma and eat it as food, the poisonous part being carefully extracted and thrown away.*

10.—CHIKAPPO-CHIKOMESUP.

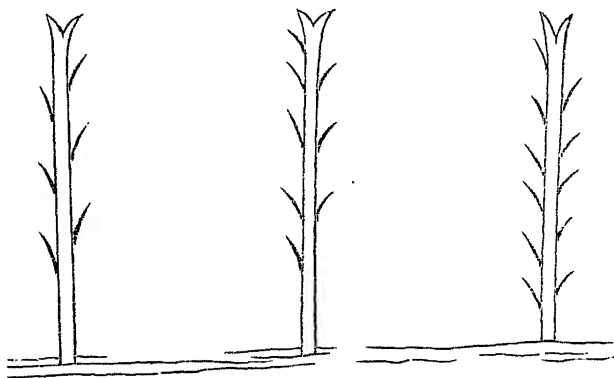
(*Little carved birds*).

In the event of a village being attacked by an epidemic disease of any kind, but more certainly and particularly if the disease be of a severe and dangerous nature, the Ainu of the villages immediately surrounding the infected one will proceed to get sticks of elder or cladrastis, about four feet in length, and make them into a kind of charm or fetch. These sticks are named *chikappo-chikomesup*, i.e. "little carved birds," by some; and *Rui-shitu inao*, i.e. "great" or "thick war-club *inao*" by others. As soon as made, which is done with scrupulous care, they are set up with grave reverence and due ceremony by the chiefs and elders of the people, and if possible and of course, with plenty of *saké* drinking, at the end of the village nearest the one attacked. After being properly established in their places they are devoutly worshipped and called upon to defend the people by keeping the malady from their midst. I need hardly remark that these fetiches are looked upon as most

* A description of some Arrow-poison examined by Dr. S. Eldridge is to be found in Vol. IV. page 78 of the Transactions of this society.

powerful charms, and that the people have very great faith in them, for the Ainu is nothing if not sincere and devout in his belief and trustful in his worship. Indeed so highly do they think of and reverence these "little carved birds," and so great is their faith in them, that they have given them the special name of *Kotan kikkara inao*, i.e. "the *inao* who are the defenders of the village."

It will be seen by the accompanying illustrations that the sticks are shaved downwards, the shavings being left attached and standing upright, while a slit is made in the



Chikappo chikomesup.

top. The reason for this slit will be understood when it is known that the *inao* are intended to represent the horned or great owl. These birds, it is supposed, are able to prevent harm from coming to the individuals of any village where their images or fetiches are set up. Moreover, the living birds are also supposed to very considerably give warning by a hoot of any approaching evil.

The shavings left on the sides of the sticks are intended to represent feathers or wings (the latter being much more probable in this case than the former) and the split top the bird's mouth. I have a few times seen portions of food and

herbs placed in the mouth to render the fetich more potent and certain in its operations and more obnoxious to the disease. Not only so, but I have often seen small ones so extensively used as to be nailed on the window frames and door posts of nearly every Ainu hut in a village, the special purpose of which is acknowledged to be the keeping out of sickness. The smaller ones however are not worshipped, and the only difference I can discover between the *raison d'être* of these and that of the horse shoes one may sometimes see nailed to doors, gates and posts in country places in England, is that the former are intended to keep misfortune and ill-luck out and the latter to bring fortune and prosperity in.

The particular number of shavings to be left on the sticks is left to the religious taste and theological ideas of the individual. Some have six left on them, for six is generally supposed to be the sacred number, and are therefore call *iwan rapushbe inao*, i.e. "six winged *inao*;" others have seven and are called *arawan rapushbe inao*, i.e. "seven winged *inao*," for by some seven appears to be thought the sacred number and others again have as many as twelve, (which is the sacred number six doubled), left on them and are called *tup ikashima wan rapushbe inao*, i.e. "twelve winged *inao*."

There is one thing here which may be a little mystical and confusing to anyone not initiated into Ainu theological and mythological notions. I refer to the fact that the supposed wings of the owl are left standing up and therefore pointing forward rather than backward as one would naturally expect in the fetich of a bird. But to the Ainu it would be most unnatural to have the wings, under the present circumstances, the right way on. For the fetich is angry because death is abroad. The demon of disease is near at hand and there are mourners among people. Everything is the reverse of what it ought to be. Disease and death are not natural, but they are the spiteful works of malignant

demons. Thus, as when following a corpse to the grave the mourners wear their coats inside out and upside down, and as when they return from a funeral their clothes are hung out in the air, also turned inside out and upside down, so do the men make the wings of the owl fetich the reverse of their natural way of growing.

The elder tree itself, the proper name of which is *osh-paru-ni*, i.e. "tree with a broad heart" (see appendix I), out of which these fetiches are made, is sometimes called *Kashkamui-yewen chikuni*, i.e. "the misfortune giving" or "unlucky tree." Why this is so no one now appears to know. Posts of this wood are in some places used to mark the graves of children, for the elder being brittle is thought to be a fitting symbol of a frail and snapped off, or shortened life. The stronger branches are used to carry the mat in which the dead bodies of children are borne to the grave. These are also left at the place of burial, and generally on the grave itself. The cladrastis appears to be used because it is believed to be of a poisonous nature and therefore obnoxious to the disease it is intended to drive away. In fact, should the disease approach too near it, it is thought by some that it would be poisoned to death.

The food and herbs I have seen in the mouths of the *Chikappo-chikomesup* consisted of, in one case, highly putrified fish mixed with brimstone, the odour of which was nearly enough to kill anyone, and in the other of *ikema*, i.e. *Cynanchum Caudatum*. The smell of these things is so powerful, and diseases of every kind have such a strong dislike to them, that they will not, unless the people of a village are especially great sinners or the demons of disease extraordinarily spiteful and wicked, bring their noses near them; nay, indeed, they will flee away post haste to a more pure and congenial atmosphere. The brimstone is thought to have the power of suffocating disease, and I suppose some of our own physicians think so also. I

find that the use of carbolic acid and lime in my own house as disinfectants has been looked upon in the very same light by the Ainu as the use among themselves of their own orthodox materials when taking their pathological and hygienic precautions. I have no doubt also that if I was to make a fetich like the Ainu and stick a piece of prime Gorgonzola or Gruyère cheese in its mouth, especially if the parent cheese (for cheeses do become parents sometimes) from which the piece was taken be a good one, the Ainu would consider it to be a fairly potent precaution and well able to slay a demon. Why should they not? The smell, which is certainly the chief thing, is there!

What are called by us the living germs and bacteria of disease are by the Ainu called demons. From this fact it might perhaps appear at first sight that there is very little difference between them and us in our conceptions as to what disease really is. We speak of the living germs of disease awaiting favourable opportunities and conditions in which to attack persons, and the Ainu speak of the living demons of disease under the very same terms. Notwithstanding this, however, the difference between them and us is real and vital. With us indeed the germ is, as I suppose, the disease itself in embryo, but with the Ainu the demon is not the disease itself but the direct cause and parent thereof. The difference in thought therefore between us and them is as great as that between a cause and its effect. With the Ainu this living germ, cause, or demon, has an essential, spiritual and personal existence and is able to think, will and act, while with us the living germ is simply an adventitious, blind, irrational force whose life is more vegetable than animal and in no way spiritual. By mere casual expression the two may appear identical but in essence and thought they are the very antipodes of one another.

In passing I take the opportunity here offered of publicly making an apology and correction. I have often

insisted both in my lectures and also in my writings that the Ainu do not worship *inao*, but that they are made as offerings to the deities and are set up as signs of reverence for them. This is true but in part. The ordinary kinds of *inao* so frequently seen upon the sea-coast, by rivers, streams and springs, as well as those placed outside the east end of the huts and those hung round the inside and set up by the doors and windows are not worshipped or invoked. They are offerings pure and simple. Nevertheless, there is in every hut one large *inao* called *Chisei koro inao*, i.e. "the *inao* which possesses the house;" and *chisei punji-ekashi*, "the ancestral governor of the house." His place is in the north-west corner of the hut, and at the back of the family heirlooms and treasures. This *inao* is, I find, actually worshipped, though rarely indeed, by the head of the family. The only other exception to the general rule is in the case of the *chikappo-chikomesup* or "little carved birds" mentioned above. These two kinds of *inao* must therefore and without any doubt whatever be looked upon as genuine fetiches and the Ainu race classed among those who practice fetichism. I apologize for my error.

While on the subject of *inao* it may perhaps be as well to give a prayer I once heard an Ainu say when placing one of these things upon the hearth and drinking *saké*. It was as follows :

Rikun kando nupuru mo-	O God who art in the high
shiri otta an Kamui, kotan	and precious heavens, O
kara Kamui, moshiri kara	creator of worlds and places,
kamui, tapau inao tan tonoto	receive this <i>inao</i> and wine.
uk na.	

Orowa no, Kamui huchi	And O divine grandmother
kora kenru koepuugine wa	(i.e. the fire goddess) have
inunukashike wa en kore	mercy upon us and take care
yan.	of our house.

Sometimes Penri is called upon by the Japanese visitors at Piratori to go and drink a libation to Yoshitsune who has

a shrine at Piratori.* This shrine is called by some of the Ainu "Penri's sake-trap," because it brings him in much sake. When he goes he offers an *inao* and says :

Ku goro Yoshitsune ka- My divine Yoshitsune,
mui, e ankushtapne hembara through thy divine favour I
yakka tonoto ku ku na. Ku am always getting wine. I
yairairage na. Ku ongami na. thank thee. I salute thee.

It has been frequently remarked above that the *Chikappo-chikomesup* are intended to represent the great owl. This is the case among many Ainu though there are some who deny it. But those who deny it have in every case been so far unable to give me the name of any other bird unless it be the night hawk. As therefore the owl is the bird usually given I have kept to it here. However, the actual name of the bird is not of so much importance in this place ; the fact itself is that which I desire to emphasize here. The bird, whatever it is, is certainly worshipped under the form of a fetich. The owl is considered by most Ainu to be a bird of ill omen and is said to be able to tell a good man from a bad one at sight. When caught the Ainu say that it will not look at a person if he is of an evil disposition, but will keep its eyes nearly closed. This act is called *Ainu eshpa*, i.e. "man ignoring." If the person before whom the bird is brought be of a good character it will stare at him open-eyed. This act is called *Ainu oro wande*, i.e. "searching out the man." I should not at all wonder if, in ancient days, the owl was used, when available, by the chiefs in trying persons for some supposed crime. This, however, is mere conjecture on my part and I have just mentioned it as a possible or even probable explanation of a term meaning "pointed out by the bird," and for which I can as yet

* Penri has been superseded and a younger man now placed in charge of the shrine by the Japanese authorities.

get no other explanation, unless indeed it be the use of birds' skulls in divination as mentioned later under number seventeen.

I once had the misfortune to catch an owl in the day-time and so unwittingly went through the ordeal of having one of these birds before me. It looked at me with eyes nearly closed and at an Ainu by my side with them wide open. The word was whispered among the people *Nishpa eshpa*, i.e. "the master is ignored." I then and there went down in the Ainu estimation about 99 per cent. But the man who was stared at by the owl! He was lord of all he surveyed for a time; for had not the owl "searched him out" and shown him to be a good man and the best of the two? Surely so. Even this very day, while penning these words, my man-servant proudly informs me that owls always look at him with eyes wide open! He leaves me to draw the inference.

It is considered to be a very unfortunate thing for an owl to pass in front of or immediately over a person. Ill-fortune or danger is certain to be near at hand in such a case, and the only way to avoid the impending evil is to expectorate as much and as fast as possible for a time. By so doing the demon of evil forshadowed by the owl may it is thought, be thrown out of the mouth instead of being swallowed. But woe betide the man who should be unfortunate enough to see an owl or even night hawk cross the moon's face! In such a case the impending evil is very serious and great and the only way of avoiding it or its demon is to change one's name so that when he comes for a certain individual named so and so, and who saw the owl cross the moon, he may not be able to find him!

The terms *Rui-shitu*, i.e. "great war-club *inao*," and *kotan kikkara inao*, i.e. "the *inao* who is the defender of the village," by which these *Chikappo-chikomesup*, i.e. "little carved birds" are called, refer to the mode of action

in this great dualistic warfare. Undoubtedly war-clubs are not made to play with or simply to look at. They were used to kill with. Just so then the war-club is symbolical of killing by knocking on the head, and this is what the owl fetich is supposed to do to the demon of disease. He is stationary, and stands on the defensive. He does not strike unless the enemy approaches him or those he defends. The aggressor is the demon of disease in question. His motto appears to be "Live and let live," but "if you won't let live then look out for I am prepared for either."

It will have been noticed that I have several times spoken of the owl as a bird of ill-omen. At the same time I have shown how that he is used as a defence against evil. The two ideas do not appear to coincide, like very many other Ainu ideas, indeed. But to understand the Ainu it seems to me that one must look at everything the wrong side on and upside down. The owl is and is not a bird of ill-omen. It is not a bird of ill-omen in the sense of being the actual precursor or cause of evil, he only appears in order that he may hoot and otherwise let people know that evil is abroad and warn them to take proper precautions. He is not himself the evil but the spier out and notifier of evil; he is not the enemy but the friend of man. He is in fact sent by the gods in order to help men in their continual fight against disease and other calamities. How he does this has here been set forth.

11.—CHIUKOPOYE-RERA.

(*Whirlwind.*)

I was well aware that storms of wind are looked upon by the Ainu as expressions of demoniacal fury, but had no suspicion that those little and welcome whirl-winds one so often meets with at play among the trees of the forest in the summer months are supposed to each contain an

evil spirit, and which during hot weather one rather looks upon as angels for good. But such I find is the Ainu idea. Really, in the Ainu world, one finds spirits good or bad everywhere and they cannot be avoided. They are altogether ubiquitous. It is an article of faith among the Ainu that evil spirits of all kinds are to be avoided, and that in the whirl-wind among the rest. When one is seen to be approaching the best thing to do is to hide behind a tree or bush till it has safely passed by. And, while in hiding, one should expectorate profusely as in the case above spoken of.

12.—HUP.

(*Boils.*)

It is doubtless well to look on the bright side of things, and somewhat of a comfort to find that even the most vexatious complaints of the body often point in some inexplicable manner to a future good. On a certain occasion I was very much afflicted with boils and quite unable to get about. An Ainu friend hearing of my plight kindly came to see and sympathize with me. After making many very kind inquiries, and just before leaving, he said:—"Oh, you need not trouble about your boils, for when persons have boils it is a sure sign that the coming year will be a good one for the garden crops; my master must therefore bear his trouble with joy and fortitude." I have now great pleasure in passing this consolation on to all friends suffering from boils. It is not known by the Ainu whether boils are produced by gods or demons; each man may settle this question for himself.

The next subject to which I would draw your attention is suggested by the word *shotki chupu*, i.e. "to fold the bed up," which word carries us directly to the matter of Parturition.

PARTURITION.

1.—PLACE OF DELIVERY.

Before a child is born the consideration of the exact spot in which delivery shall take place is a matter which very naturally occupies the mother's mind, for it must on no account take place on the framework which answers for the bed of the parents. Hence we find that some of the children are born in the hut, some in the porch or anti-chamber, and others again a little way off in the bush or forest. When it is decided that delivery shall take place in a hut, the bedstead is lengthened from the foot for the occasion by having a rough framework added to it. The child must be born upon this structure. When, however, it is to take place in the porch or forest no preparations are made beyond spreading a mat for the mother to sit and lie upon. The child is delivered while the mother is in a squatting position. There appears to be no superstition connected with this question of locality, but the place is chosen simply for convenience sake or out of caprice.

2.—TREATMENT AFTER DELIVERY.

(a.) The Child.

As soon as the child is born it is taken away by one or two of the midwives and in some cases washed in cold—but very much more often in lukewarm-water, after which it is laid in a cloth and tenderly wrapped up. Should, however, the child be still-born, one of the women goes and secretly buries it at once. If the child does not show

signs of life by squalling immediately after it has been brought into the world it is carefully placed in a wooden winnow and gently rolled from side to side till it does.

(b.) *The Mother.*

While some of the women present (no men are allowed about the place at such times) are thus busily engaged in looking after the child, others are attending to the mother. One woman makes it her business to place her hand over the mother's eyes to keep them closed, for unless very strong she is not allowed to see her child for an hour or two after it has been brought forth. She is urged to rest as quietly as possible, bother about nothing, and be at peace.

Another woman proceeds to give the mother a warm potion made by pouring boiling water on bark. The bark most universally used is the Alder (*Alnus japonica*, Mig.) and the decoction thus made is called *Ichuptasarep*, i.e. "womb soother." Some of the women, however, use for this purpose the bark of the Elder tree (*Sambucus racemosa*, var. *pubescens*) instead, and others both, though the former appears to be most highly thought of. And in some cases a decoction of *Daphni-phylum* is given (see appendix 2.)

Then again, another woman hastens to do all she can to ease the after pains. For this end she washes the abdomen with cold water, rubs the sides gently with the hand, and applies a large poultice made by steeping the bark of the elder tree in hot water. This, it is said, has the effect of easing the pain, reducing all swellings, and contracting the womb.

(c). After child-birth the mother is fed on thin gruel, made of millet or rice, for two days, and during that time is positively not allowed to take anything else whatever,

not even water. After the second day she may eat pretty well whatever is going at the time. For six days it is considered best for her to stay upon the bed or by the fire side; but on the seventh she must get up and go to fetch a little water, however little will do, from the river or spring, and bring it into the house and use it exclusively for cooking purposes. After this she must work as she is able, for in theory she is strong again.

8.—HARD LABOUR.

(a). Ainu women know of but one reason why labour should be hard in child-birth, and that is punishment for some misdemeanour, such as theft or deception. This idea is sometimes taken advantage of by suspicious women as a means by which to extract confessions. They state that in the event of confession all will go easily and well! But in some cases there is nothing to confess, and in others confession does not have the desired effect. Other means are therefore employed. One means adopted is what is called *aiai herasa*, i.e. "sending the baby down." This consists in gently stroking the sides and stomach of the mother downwards, at the same time slightly pressing the hand against the body. If this does not work satisfactorily three or four women dance the patient up and down on her feet! It is said by some Japanese that in many hard cases the women are beaten, and that this has the effect of causing them to produce the children. But the Ainu women flatly deny this, and I for one cannot believe it. I once saw a woman danced up and down, and another even walked about between two other women but I have never seen or heard of anything more cruelly severe exercised.

(b). In cases of hard labour, such as these caused, for example, by the "breech" and "shoulder presentation," the women use a kind of mucilaginous substance made by pouring boiling water on the inner bark of the *Hydrangea paniculata*. (See appendix 3). This is applied directly to the womb itself. In the former case it is said to dilate or enlarge the passage, and in the latter to cause the child to right itself. No men are ever present at a birth and no religious ceremonies are performed.

4.—THE HUSBAND AT PARTURITION TIME.

As soon as there are unmistakable signs that a child is about to be born, the husband of the patient is called upon to leave the house and go and stay with some friend. When there he has to be very quiet as though forsooth he was ill, for six days. He must stay in the hut all the time and rest by the fire-side. This performance is called *Yaimunuke*, and that means simply—"comforting" or "resting one's self quietly." The idea seems to be that life or "virtue" is going out of the man into his offspring. During these six days he must drink no wine nor make *inao* nor offer prayer. This is said to be out of special honour and reverence to the gods.

On the morning of the seventh day the husband is said to *shotki chupu*, i.e. "fold up his bed." On this day he returns to his own house, and he may now eat, drink, worship and be merry. Still for another six days he must abide at home by himself quietly. He must not *ikutasa*, i.e. "have his friends in for a drunken carouse" nor *hainare*, i.e. "go fishing or hunting." But when the six days are over he may do as he likes.

NOTE:—The following lecture bearing on this subject and other connected with it, may, it is thought be worth while preserving whole in a permanent form in the Transactions of this Society and is here presented as a note explanatory of much of the foregoing matter.

A LECTURE ON THE AINU.

BY THE REV. JOHN BACHELOR.

DELIVERED (IN JAPANESE) IN THE SAPPORO TEMPERANCE CLUB : MAY 10TH, 1894.

INTRODUCTION.

In the individual life of the members of every tribe and race of men under the sun, there are three most serious and important events which beyond all others are of the utmost moment. They are important, indeed, not only because they affect the private individual in his own person, but also because they touch society at large, and because around them centre some mighty and far-reaching issue. The first and last of these events it is not in one's own power to help; but the second many can and do avoid; the first and second again are in the power of men, but the third beyond

it. I refer to those great matters of birth, marriage, and death.

There can surely be nothing in our existence here upon earth more serious than being born into life; nothing can be of higher importance in the domain of morals and towards our fellow men than uniting with another in the bonds of matrimony; nor can there anything of greater moment to us than the fact of death itself. These three events with all that depends upon them may, when taken together, be regarded as comprehending the sum total of human existence in so far as it has been manifested to men, the subjects of it, since the beginning of time, or in so far as we are able to trace it to-day or can predict of it for to-morrow.

Speaking only as reason unaided by revelation dictates, we must say that our animal life depends immediately upon our parents; our married life upon ourselves, upon others, and upon the conditions under which we have lived since our birth; and our death upon some power beyond either ourselves, others, or our parents. And in all these causes we must admit that there is mystery so inscrutable that our minds cannot fathom it.

I am quite aware that these remarks may appear to imply that I assent to that stupendous and miraculous article of faith in fatalism which is so subtly covered up in and really lies at the basis of your much used phrase, *Shikata ga nai*, "there is no help for it," and which appears again in that ancient saying—*Shi sei mei ari, fūki ten ni ari*, "death and life are decreed, riches and honour rest with heaven." But do not for one moment imagine that I am a fatalist in that sense. If there is any phrase I dislike in your language it is *shikata ga nai*. However grant me the power of will and choice together with scop, to exercise them (all of which experience tells me I really have at this very moment), and grant me a living agent who "decrees death and life," and also grant me a power

above the heavens who can and does "dispense riches and honour," why then, I will be a thorough-going fatalist ! But this by the way.

Now, in very many instances the customs connected with and ceremonies observed in those three momentous events to which I have referred, serve to a great extent as means by which the spiritual, moral, intellectual, and social status of races and nations may be gauged ; they may be looked upon as instruments by which the very sub-stratum of the secret workings of the heart and mind and the motives underlying the actions of men are often brought up from the hidden depths where secrets lie into the broad daylight for our inspection and analysis—they serve as the key—"the open sesame" by which may be unlocked the fast closed and barred doors of the soul itself, and by which we may learn to know the degree and kind of religion possessed by peoples. Not only so, but they serve as means by which we catch glimpses of that peculiar disease of religion which we term superstition ; and they go far towards inculcating those ideas into the minds of rising generations which form the mainspring for producing those peculiar habits of nature and thought which are understood by the phrase "characteristics of nations."

This evening I have to speak upon the Ainu exclusively, and in connection with them I wish to take as my theme the subjects of birth, marriage, and death. From a custom prevailing at a birth I intend to touch upon some Ainu ideas as to whence human life come ; from those which prevail at and after marriage I desire to show the moral and social status of the people ; and from the customs which prevail at death and burial I wish to elicit a few of their ideas concerning their religion and whither the soul or life goes when it leaves the body. It will be evident to you that I have only time to touch but briefly upon each of these points this evening. I crave your kind indulgence while doing do.

I.—BIRTH.

(A CUSTOM CONNECTED WITH BIRTH ILLUSTRATIVE OF AINU IDEAS AS TO WHENCE HUMAN LIFE COMES).

As soon as there are unmistakable signs that a child is about to be born, the husband of the patient is called upon to leave the house and go to stay at some friend's. When there he has to be very quiet, as though forsooth he was ill, for six days. He must stay in the hut all the time and rest by the fire-side. This performance is called *yainunuke*, and that signifies simply, "comforting" or "blessing" or "resting one's self quietly."

On the morning of the seventh day he is said to *shotki chupu*, i.e. "fold up his bed." On this day he returns to his own hut. But even here he must abide quietly at home for another six days. For the first six days he must not drink wine, or worship the gods. This is said to be out of special reverence to the supreme powers. During the last six days he must not *ikutasa*, i.e. "have his friends in for a drunken carouse;" nor must he *hainare*, i.e. "go fishing or hunting," though he may eat, drink, worship, make *inao* and be merry quietly by himself as he pleases.

After the child has been born the mother is fed on thin gruel, made of millet, for two days, and during that time is positively allowed to take nothing else whatever, not even water. After the second day she may eat pretty well whatever is going at the time. For six days it is considered best for her to stay upon the bed or by the fireside; but on the seventh she must get up and go to fetch a little water, however little will do, from the river or spring, and bring it into the house and use it exclusively for cooking purposes. After this she must work as she is able, for in theory she is strong again.

This custom of drawing water on the seventh day, whatever its origin may have been, does not now appear

to have any special significance or purpose beyond that of showing to society in general that the mother is now safely and happily over her trouble, and has again resumed her household duties. However, it may in ancient time have found its origin in the idea of purification, and if so may be connected with religion like the purifications of the Jews, Indians, and Persians. Purification in a Biblical sense was an act through which an individual because fit to approach the Deity, or mix freely in the community in cases where a certain bodily or other disability had kept him or her out of the pale of the latter. Child-birth rendered a woman unclean, and she was not allowed to approach God in His temple nor take part in public religious exercises until she had been purified. It is just in this way that Ainu women are treated after they have had a baby. After parturition they may not properly mix in the village community until they have drawn water; and water was used in the ceremonies attached to certain kinds of purification by the Jews, Indians and Persians. As water is a cleaning element it may be regarded as a fitting symbol of purity.

So far as I can see, the only difficulty lying in the way of accepting this theory as to the origin of drawing water after child-birth, lies in the circumstance that it is used for cooking purposes and not for cleaning the body. But this need have no weight with us. The sign of purification (i.e. the water) is there. The water is drawn after the sixth day has passed (six is the religious or sacred number). It is not drawn with an ordinary tub or bucket, but with a fitting and clean lacquer-ware basin. Moreover, though the woman may not mix in the community before the water has been drawn, she may after. I must frankly warn you, however, that this is a mere theory of my own, and if you question the Ainu themselves you will find that beyond giving you the fact of drawing water they can do nothing else; they know nothing

of the origin or reason of the custom. The circumstances accompanying this custom—such as using not an ordinary but an extraordinary vessel with which to draw the water—its connection with the sacred number six, inasmuch as it takes place on the seventh day—and the woman being then considered well and free to mix in the community—are matters only to be obtained by careful observation and kindly questioning. And you will also find that many of the old customs are being pushed on one side now and Japanese instituted instead, so do not make the great mistake of studying the Ainu immediately on the frontiers and fancy you may get the true article there, if you desire to study these matters.

Now, the special fact connected with child-birth to which I wish to draw your attention is that which I mentioned just now; viz., that the father of the child must rest in a friend's hut and take great care of himself for six days. He must also abstain from strong drink and all religious exercises. But why, it may be asked does he abstain from all worship? The Ainu answer is, out of humbleness of heart and honour to the deities. Again it is asked, 'how can it be an honour to the gods to let them severely alone for six whole days?' To this question the Ainu finds no answer. As for myself, I can think of only one way by which such an act can be construed into humility and honour to the deities. That is, by the Ainu looking upon himself as impure in the eyes of his gods on these occasions, and so unfit to approach them. It must be taken into account that it is again for the sacred six days, for on the seventh he returns to his own home where he may pray and make his *inao*. I believe this may possibly be the true idea which originally caused this custom of abstaining from worship, though there is another reason to be found.

It would be very interesting to endeavour to trace both this custom of the father and that of the mother to

their true source, and so connect the people with some other races ; but that is beyond the scope of this lecture and must be passed over.

No doubt the question as to why the father should rest for six days as though he was ill and suffering has arisen in your minds. If so, it is the very question I desired to be asked, for the idea underlying the fact and causing the custom to be practised is a curious one and partly shows what the Ainu think as to the origin of life in their off-spring. The people appear to imagine that the bodily life—or animal life—of their children is, in great measure, if not indeed exclusively, derived from their mother, while that of the spirit comes from their father. The bodily life is imparted by the mother gradually from the time of conception until birth takes place ; the spirit life comes by degrees from the father in some mysterious and secret manner during the six days immediately following birth and goes on growing and being augmented for another six days after he has returned to his own hut. At the end of the last six days the child may be looked upon as a unit in itself, but while the spirit is being derived from the father it is not yet one ; therefore unless the father is very quiet and careful during those periods of time, the life of his offspring will take harm, and in injuring his child he will himself receive harm in return. By this idea then we account for the curious custom Ainu fathers have of resting twice six days at the birth of their children.

But, it may be inquired, what happens should the father be far away in the mountains ? To this we can only reply that even in that case the birth is never put off ! It takes place just the same. But how does the father's spirit get to the child, especially if he is far away ! There is no difficulty even here, for every man is supposed to have his own private genius or guardian angel, called *Ituren-Kamui*, who attends to all such things

Nevertheless it is best for the father to be at hand if possible; and I have several times met men returning home from hunting or fishing in order to be in time.

From what has now been said we may see how very appropriate the old name for the Ainu was, for it very nicely coincided with these ideas. That name was *Aiainerak-guru*, and that means, "Men having the essence of *Aiainera*." It is indeed true that the Ainu have plenty of essence, for they can be smelled a long way off; but the essence here spoken of most likely refers to the derivation of the spirit or soul of the son from the father.

After having been among a number of Ainu in company with an American gentleman some years ago, my friend said to me: "The Ainu must have pretty big souls for they smell strong enough!" He was referring to that curious idea some have that the soul is just equivalent to the peculiar individual smell or scent of anything and is nothing else. I have heard of this idea here in Sapporo; whether anyone in this room holds it or not I cannot tell, but I hope not. Thus the peculiar smell of a bear is its soul, that of a dog its soul, that of a man his soul. According to these ideas I suppose the American skunk has the biggest soul of all. And if this be true your *Yamato damashi* is nothing more than the aggregated smell of the nation!

Thus from a curious custom prevailing at a birth I have now touched upon some Ainu ideas as to whence life comes. As to what the Ainu consider life to be in its nature and essence, and to whom or what it is to be ultimately referred, are points upon which I cannot speak this evening. I will therefore pass on to my second point, viz:—Customs prevailing at and after marriage which show the moral and social status of the people.

II.—MARRIAGE.

CUSTOMS PREVAILING AT AND AFTER MARRIAGE WHICH SHOW
THE MORAL AND SOCIAL STATUS OF THE PEOPLE.

The Ainu consider marriage to be a social and family arrangement or contract which affects the parties immediately concerned more than anyone else. The young people need not marry unless they choose. They may have been betrothed in childhood by their parents, but they cannot be forced to marry each other. Both the young man and his *fiancée* have a final say in the matter. However, until the age of maturity the bond entered into by the parents is held sacred, and is only made void by the parties themselves should they desire to bring the contract to an end. This appears to us Western people as a most sensible plan, for it is a very serious thing to be joined to another for good or ill whether we like it or not. No right-minded young lady in Europe or America would be joined to a man unless she chose to do so, and in this the Ainu are like us. However, this is thin ice, and I will get off at once.

The marriage ceremony consists in nothing but a little feast of cakes or rice and wine, at which the mother and bride officiate. The bridegroom has a few heirlooms given to him should there be any, and the bride a few trinkets, as beads and ear-rings, and sometimes an old sword guard to wear as a charm. The wife never takes her husband's name, but retains her old one. When not called by her own maiden name, she is merely called so and so's wife; that is to say, so long as her husband is living. Should he die, she is always known by the name of her maidenhood, or called so and so's mother should she have a son or daughter. The social position therefore of the woman before marriage is looked upon as being equal to that of the man; but after marriage she becomes subservient to her husband and may neither take nor use his name.

The husband is, and rightly so we think, the head of the wife; but this principle is carried too far when the woman is not considered good enough to take her husband's name upon her lips. In this matter, therefore, we must regard the people as somewhat low in their social status.

VOLUNTARY SERVICE WITH A VIEW TO MARRIAGE.

Speaking of the Kamtchatdales, Dobell wrote,* "Should a young man fall in love with a girl, and he is not rich enough to obtain her by any other means, he immediately enslaves himself to her father as a servant for three, four, five or ten years according to agreement, before he is permitted to marry her. When the term agreed on expires, he is allowed to live with the father-in-law as if he were his own son." This well known custom seems to be universal in the East and is, I believe, known to every Asiatic nation. I personally knew of a like case happening at a Japanese village called Ono near Hakodate.

The custom also prevailed in old times among the Ainu, and even at the present day some rare cases are heard of. There is, however, one great difference among the Ainu, for not only the young men but any girl also who should fall in love with a young man may enslave herself to his parents as a price for their son. The young men and the maidens of this race are sensible about this matter and are not in the least ashamed for it to be known when they are smitten with Cupid's arrows.

One great reason for marriage among the Ainu is the reproduction of children. It is a well known fact that among all Asiatic races there is always to be found a very strong desire to perpetuate the family name, and a great dread of its being allowed to become extinct. In many

* See Dobell's *Travels in Siberia*, vol. 1. Page 52.

countries the lack of male issue was, prior to the introduction of Christianity, considered fully sufficient reason to justify a husband in divorcing his wife ; or even should there be female issue, men frequently added another wife to their families in the hopes of thereby obtaining a son. Concubinage may to a very great degree have arisen from this desire for male issue. What was at the foundation of this sentiment I do not here intend to enquire, excepting in so far as it is current among the Ainu.

Notwithstanding that the Ainu have no family names to perpetuate, yet it is very curious, but considering the conditions in which they live and the religious and superstitious notions prompting many of their actions, eminently natural, to find that they, both men and women alike, are most anxious to acquire children. The men wish for at least one boy and the women a girl or two. Lack of issue has been the cause of much cruelty on the part of the husband and of an infinite amount of trouble to the poor women. I heard of one man who had divorced at least six wives because they bore him no children, and he has had as many concubines in his time. He himself has at last adopted a son and his present wife two daughters.

I always find among this people that though a man's wives live in separate houses they are very seldom on speaking terms with one another, excepting to quarrel. The system does not work well among the Ainu, whatever it may do among the Mormonites. In prosecuting my work among this people I have sometimes had occasion to point out the immorality of this practice to them, and although they agree with what I say they generally wind up by informing me that it is an old Ainu custom. Of course nothing remains to be said after so strong a reason.

There are three principle reasons why the men so much desire a son. The first is that he may act as family

priest when the father dies. Secondly, that he may inherit, preserve, and hand down to posterity the principal heirlooms and family treasures; poor enough these seem to us truly, yet to them they are precious; and thirdly, that he may act as the head of the family and take the place of the father to the younger members thereof, should there be any. Not only so, but that he may keep the father in his old age.

I can assign but two reasons accounting for the fact that the women wish for girls. These are first, that they may have someone to assist in looking after the house, fetch water and wood, and work in the gardens. And secondly, that they may have someone to one to feed them in their old age. The principal reason for desiring male issue is that they may please their husbands and escape the disagreeable consequent on not having a son.

I have often heard travellers among the Ainu remark that many of the children are like Japanese boys and girls. This may be accounted for in two ways. In the first place there are numbers of half-breed children among them; and in the second place childless women, of whom I know many, very often adopt Japanese children. It may appear contrary to expectation that Ainu women should adopt Japanese children or that the Japanese should care to allow their babies to be adopted by them. Nevertheless, it is very often done. I know of four women who adopted children from the Japanese in the year 1893; I know of one who paid 50 *sen* for her baby two years of age. A very few days ago an Ainu woman informed me that she was going into the Japanese town to adopt a child, and in the evening she returned and told me that she would not take it because it had bad eyes and that she was going to inspect another she had heard of in a few days! Incredible though it may appear, yet the Ainu women find not the least difficult in getting, either by means of a few *sen* or as a free gift, Japanese children from their parents!

DIVORCE.

Among the Ainu release from the matrimonial bond was very easy of accomplishment and often executed on the slightest grounds imaginable. I am of course speaking of the remote ages. We are therefore not surprised to find that divorce was consequently of frequent occurrence among them. It seems indeed that the members of this race regarded the marriage rite as very little more than a conventional union binding for so long a time only as suited the mutual convenience of the spouses. And, it should be remarked, it was just as easy and considered just as proper for a woman to cast off her husband as for a man to divorce his wife.

Some of the grounds upon which a man would release himself from his wife were as follows:—Want of love towards her or of her towards him; incompatibility of temper; general disrespect on the wife's part; idleness and failure to keep the hut supplied with fuel and vegetable food; unfaithfulness; lack of male issue. A woman might dissolve her connection with her husband for the reason of adultery; dislike to him; idleness; inability to keep the larder supplied with fish and animal food.

Divorce might take place by the simple consent of the parties, though it was very seldom that the husband would condescend to consult with his wife on the subject. When a man divorced his wife he merely made her a present and sent her back to her parents; and when a woman wished to be free from her husband she simply walked off and left him to shift for himself. In cases which have actually occurred under my own eye the subject was made more of a family affair, and the presents were sent to the parents of the women who were divorced, and were not given to the women themselves. When a separation took place the children, if any, were divided, the father taking the sons and the mother the daughters. I have also heard of cases

where the father has in anger against his son-in-law sent and fetched his daughter away, thus divorcing his son-in-law and daughter !

From these facts—namely, the great ease with which divorce was accomplished, the women being looked upon as inferior to the men, and the recognition of concubinage as a lawful thing—we must place the Ainu race on quite a lower plane of moral and social status. It is for you to raise them.

III.—DEATH AND BURIAL.

CUSTOMS CONNECTED WITH DEATH AND BURIAL, SHOWING
AINU IDEAS CONCERNING RELIGION AND WHITHER THE
SPIRIT OR LIFE GOES AFTER IT LEAVES THE BODY.

When an Ainu dies, the body, be it that of a man, woman, or child, is dressed in its best clothes, all of which are first cut or torn a little, and laid out by the fire-side. Should the dead person be a man, his bow and arrows and quiver, his pipe and tobacco-box, a long and short knife, a sword, a cup and tray and moustache lifters, and also a bundle of clothes, are placed by his side. All of the clothes are more or less cut or torn even should they be new garments, and every one of the other things is broken, chipped, or bent. All are buried with the body.

Should the corpse be that of a woman, some needless and thread, some native and Japanese clothes of various colours and kinds, a set of weaving implements, spoons, ladles and cup, and her trinkets, such as beads and ear-rings, are placed by her side; also a bundle of clothes, also all cut or torn. Children also have a cup, a spoon, some clothes and trinkets placed by them. But the great point to be borne in mind is that all these things are buried with the corpse, and are always first cut or otherwise injured.

As soon as a death takes place friends are notified of the fact and a feast is made. This is not indeed a feast for pleasure, but for mourning, weeping, howling, and bidding farewell to the departing person, for the spirit of the dead must not be looked upon as departed until the body has been placed in the grave. Some of the food, which consists of boiled cakes made of millet, is broken and reverently placed upon the corner of the hearth to be buried with the corpse, and drops of wine are sprinkled in a circle round the head with a moustache lifter, while prayer is being devoutly offered up to the spirit of the departed and to the gods. All the people who have come together for the feast also break their cakes and bury part under the ashes by the fire, while eating the remainder. These remnants seem to be the share set apart for the goddess of fire. After the feast is over, all of these fragments, the essence having now, it is thought, been devoured by the goddess, are gathered up with the ashes and thrown away. It would not do to leave them upon the hearth as they would be constantly turned up whenever the fire was stirred, and in that way remind friends of death. This feast goes by the name of "bad eating and drinking," and "the broken eating."

This feast having been partaken of and prayers duly said, the body, together with all the things to be buried with it, is taken to the grave. A cooking pot is carried with the other things which, after having been broken, is put upon the grave by the post which answers as a tombstone. Fresh water is also carried in a wooden basin, with which, after the ceremony is over, all those who have taken direct part in the burial wash their hands. This basin is then broken, by having the bottom knocked out, and placed over the aforesaid tombstone.

When a child is buried the same customs prevail, the only difference being that the pole used in carrying the body to the grave, is as a rule, of the elder tree. The bodies

of adults, however, are carried with any other wood that happens to be handy, but by no means must elder be used.

There are other customs connected with death and burial of which I might speak, but as those I have now mentioned bear directly upon the subject in hand, viz :—Ainu ideas concerning religion and whither the spirit or life goes after it leaves the body,—while the others only effect the matter indirectly, I will pass them over and confine myself to the task of showing the thoughts underlying those customs and prompting the people to perform them.

Now in the first place, I suppose the questions will be asked—Why do Ainus break and chip and bend the implements, and cut and tear the clothes which they bury with their dead? Or, why indeed should these things be buried with them at all? Then again it will be asked, why all this ceremony of breaking up millet cakes and knocking the bottoms out of pots and basins? These questions have been asked and variously answered. They have puzzled me for years and I have, I must confess, but just discovered their true meaning.

It is said by some persons that the people bury these things with their owners because their work is over and there will be no more use for them, and as a proof of this they mention the fact of their first being broken. I will dismiss this by merely informing you that it is not so according to Ainu ideas. This reason is really an imported one and is not native at all.

Again, if you ask the Ainu why they break up the implements and tear the clothes before they bury them, you will find that the general answer will be,—“to keep the Japanese from stealing them”! But this is certainly not true. We must look deeper than this for the true solution of the matter.

A third and truer and more general idea is that these things are buried with the corpse because the spirit is.

supposed to require them in the next world. This, as is the case with other races, is the true Ainu reason for the custom. Extinction or absorption of the spirit forms no part of the Ainu idea of death. Each person will have, it is supposed, a distinct, definite, personal life in a body beyond the grave. And, there he will require his hunting and working and cooking utensils and paraphernalia as well as his clothes. He will have his hut, his wife, his dogs, in fact, everything as it is here, only much better.

But, it will be asked, if the clothes will be necessary for the body, why cut and tear them? If furniture and implements are required, why break them first? Or how, again, can these things get from the grave to the other world? Having been once placed in the grave, there they remain. It is just here that we begin to understand the Ainu idea of life. Life is spirit whether hidden, latent, and secret, or manifested and openly energetic. Every possible thing you can imagine as existing has its separate, individual spirit, and always will have. If we lose it in this it will be found in the next world. It can never be absolutely lost or extinguished. Thus, swords, bows, arrows, cups, moutache-lifters, pots, basins, pans, knives, spoons, needles, beads, earrings, cotton, thread, string, boots, coats, blankets, mats, every individual thing in truth is supposed to have its separate and distinct spirit and personality which can never be lost whatever happens. It will live in another world. A spoon will be a spoon, a sword a sword, a hat a hat, and a pair of shoes a pair of shoes in that world.

You will probably begin to see the real reason for breaking these things when the owners thereof die. Death itself is caused by some harm having been done to the body by the gods, demons or men. It is the body only which can be damaged, not the spirit. It is the body only which decays and dies, the spirit never. As therefore the living spirits of men will require all this furniture in the

next world, the various articles are each in their separate persons or bodies damaged; their spirits are thus set free and caused to go with their owners to serve them there. Their bodies are damaged, *i.e.* they are killed. Hence as the human body will, when in the home beyond the grave, need clothing to wear, a quantity of clothes is first killed by being cut, and then buried; as it will require food there millet cakes are first killed by being broken and then sent off on their journey; and so with the other things. Coats, I should have remarked, are cut from the neck down the back, for the back-bone is supposed to be the seat of life. These things are very curious, deep and mysterious, but they serve as very good eye-openers by which we may learn to see the inner workings of the heart of this peculiar people.

Now death is a thing which cannot take place in a hurry. That is to say, nothing is thoroughly dead till every particle of the body in which it lived is decomposed into its elements. Hence when a body is buried life or spirit still exists in the grave in some degree till all has been decomposed. We can therefore understand how it is the people believe that ghosts exist near graves and are afraid to go near them. But I cannot now speak of superstitions connected with ghost-life and the great fear of them the Ainu have.

When the body is in the grave the spirit is there also, in part at least, gradually freeing itself from its earthly tabernacle and must be carefully left alone. No one must intrude on its domain, for it requires room and perfect freedom. In this idea therefore must be sought the reason why the Ainu bury in separate places far away in the forests and not in cemeteries.

The Ainu have, I find, a very great dread of being buried in coffins; they therefore use nothing but mats for this purpose. The idea seems to be that a coffin is too small and would interfere with the withdrawal of the spirit

from the body and earth. I am told indeed that some of the Saghalien Ainu place their dead in coffins and either leave them above ground in the forests or bury in very shallow graves, leaving the tops of the coffins only exposed. But whether this is so or not I cannot say for certain. If coffins are used there they may have got the custom from the Russians. There is no such custom among the Ezo Ainu. In fact, the Ainu here have a very great dread of being shut up in a box, as they call it, and being so buried.

A few years ago a woman died in a certain village saying that she believed in Christianity and would like to be buried according to Christian rites. We were away from the village at the time but there were some Japanese Christians there who took upon themselves to make all the necessary arrangements. They told the husband and friends of the deceased that she ought to be placed in a coffin, as if forsooth that was a necessary part of Christian burial! This caused a great uproar, and the Ainu present refused to permit it. She was therefore rolled in a mat and buried as is customary among them.

I mentioned just now that water is carried to the grave at the time of burial, and that the people wash their hands with it. This custom may have originally had connection with the idea of purification I spoke of under the second heading. But as I can say nothing on this point positively, it shall be passed over.

CONCLUSION.

I have now touched briefly on the three questions proposed, viz :—Birth, marriage, and death. From a custom connected with birth we find that the Ainu fancy human life originates no farther back than the parents. The truth underlying this fact is that it is so mediately,

though ultimately not. From customs prevailing at marriage and after we find that inasmuch as divorce is easy of accomplishment—that polygamy is allowed—and that concubinage is practised—the Ainu are not very far advanced in civilization and morals, and that they are not very high in the social scale. From those customs practiced at death and burial we find that the Ainu regard all life as being individual, personal, and everlasting.

My Friends :—The last remnant of this race of men is at your very doors. The people are poor, degraded, and helpless. They are being driven to the wall by *saké* and immigrants, and they cannot last much longer. Can you not help them? Shall it be said to the everlasting shame of Japan that she has allowed this fragment to become extinct without stretching out a helping hand? Be magnanimous and help them.

The next matter to which I would draw your attention is indicated by the words PARO-A-OSHUKE WA HOSHIPIRE MARAPTO, i.e. "*the feast of being sent back, the mouth having been cooked for.*" For convenience I have headed the subject :—

14.—HOW TO GET RID OF A GUEST.

The Kamtchatdales were said to have been a very hospitable race of people, especially among themselves. So hospitable were they indeed, that should a guest come to stay with them it was considered disrespectful to ask him to take his departure. Dobell writing on this point says :—* "*They pay one another visits, which last for a month or six weeks, until the generous host, finding his*

* Dobell's travels in Siberia. Vol. I. Page 83.

stock of provisions exhausted, is forced to give a hint to his guest to take his departure. This is managed by presenting to him at dinner a dish called *tolkootha*, a kind of olio, or hodge-podge, composed of a number of meats, fish, and vegetables, all mixed together, and very difficult to prepare. It is the dernier resort of the master of the house, and the moment this dish is served up, the guest takes the hint, and leaves him the following day, without feeling the least dissatisfied; the proceeding being understood amongst them."

The Ainu are also very kind and hospitable to one another, but they do not carry the sentiment above referred to to such lengths. They are very much more out-spoken. They gladly take a friend in for a few days, but if they find him inclined to stay too long they tell him plainly that they would be much obliged if he would take his departure. Nevertheless, it is not considered to be the best of manners to be so plain spoken; but on the other hand, it is not considered proper for a visitor to stay more than a day or two unless he is particularly invited to do so or has a good supply of *saké* with him. I have known Ainu men invite their friends to work if they were inclined to stay too long. This had the effect of getting rid of them post haste.

I am told that it was an old custom, however, among this people, a custom which seems to have now died out indeed, to hint to a friend that his absence would be more valued than his presence, by making a feast and inviting a few of the neighbours to share it with him. If, soon after the feast was over and the neighbours gone home, the visitor also did not take his departure, the host and hostess would leave him alone in the hut. He would not stay long after that if sober, but if intoxicated would sleep till he became sober and then go away. This feast was called *Paro-a-oshuke wa hoshipire marapto*, "the feast of being sent back, the mouth having been cooked for."

15.—MAT-AHUPKARA.

(Taking a wife.)

The Ainu I find marry their cousins very often, and in some cases their neices even, and the men marry a deceased brother's wife and become fathers to the children. But there is a more remote relationship where union may not take place; it is that with a sister-in-law's sister or brother's wife's sister. Two sisters or two brothers must not in fact marry into the same family. A few years ago one man asked me to provide a husband for his daughter and another a wife for his son. These were truly formidable requests to make, and I felt it to be a very delicate matter to take in hand. As a rule I will never have anything to do with such important family arrangements, for I consider it dangerous to meddle with them. However, as all the parties immediately concerned had with the exception of one, lately become Christians, I brought myself to stretch a point and promised to do the best I could for them. I therefore paid the aforesaid lady a visit and asked her about her love affairs. She told me that she would like to have the very young man I had to dispose of for a husband! Thereupon I called upon my intended bridegroom and inquired into his matrimonial wishes. He also, strange as it may appear, wanted this same young lady. I then had a suspicion that the parents of this couple had been in collusion, particularly as they were near relatives, and that under such favourable circumstances match-making for others was quite an easy matter after all. But alas, I was doomed to experience an early disappointment. On telling the respective fathers of my happy arrangement and asking for their approval of and final consent to the little scheme I was quietly informed that the choice was most unfortunate. The girl was the sister of the young man's brother's wife, and according to Ainu marriage customs,

handed down from time immemorial, two brothers may not marry two sisters. Upon being informed of this fact I then and there washed my hands of the whole matter. The people say that it is unlucky to do so, and displeasing to the gods, for one of the two sisters will probably be punished and die within a year after marriage should they marry two brothers; or, if indeed they do not die there will be no issue. I have been asked to make such arrangements in two other cases, but I have steadfastly determined to have nothing to do with it but let them shift for themselves.

16.—IMU, *n.* and *v.i.*

(*A kind of hysteria; to be attacked with hysteria.*)

There is a very remarkable kind of hysteria prevalent among the Ainu which they call *imu*, and which seems to attack the women especially, though not exclusively. The complaint appears to be closely connected with snakes and vipers in some mysterious manner. I have found that women who have been bitten by these reptiles are, without a single exception, subject to attacks of this disease. Penri, the only man I know to have been bitten by a viper, is also sometimes attacked. Neither he nor any other person subject to these fits can bear the sight of a snake or viper or endure the mention of the name. Moreover, I once sent a man, who was not subject to these fits, off into this kind of hysteria by killing a large snake and taking a rat out of its stomach, and many a time have I quite unintentionally sent women into hysteria by telling them of the part the serpent is said to have played at the fall of man. I once saw a young man throw three women into one of these fits by placing a handful of *equisetum*, or

scouring rushes in their way. The Ainu call this kind of rush *shipship*, and this it will be observed is simply an onomatopœa for that kind of sissing noise the rushes make when being rubbed together. The reason they cause hysteria is supposed to be because they remind the people either of the sissing or hissing noise snakes make at the time of attack, or of the rustle they make among the grass and leaves when gliding away.

The symptoms are curious though not the same in every person. In every severe case however that has come under my notice I have observed that the eyes of the patient open very wide, stare fixedly, and glitter. Such persons fill one with pity, for the whole demeanour is that of abject fear. As a rule also patients will repeat rapidly the last words one speaks when addressing them, and when looking at you will poise the head, throw back the shoulders and incline the elbows slightly forward. Some will do exactly the opposite they are told. Should such have a knife and a person tells them to throw it away they will in all probability cut themselves with it. I once saw a snake in the way of a woman who had a large garden mattock in her hands. The sight of the reptile sent her into hysterics. A young man near at hand told her to throw the mattock at the snake, whereupon she immediately threw it at him and nearly hit him on the head. Had the young man not known what to expect from her and been on his guard I believe he would have been seriously wounded. On no occasion do persons attacked by this disease laugh or cry during the fit.

But not only does it appear that all women who have been bitten by snakes or vipers have these fits, but it seems to be hereditary also. The girls born to a woman after she has been bitten are said to be certain of attacks. But what truth there is in this I do not know. I am certain, however, that the complaint is contagious, for girls I knew ten or fifteen years ago and who were not subject to these

fits then, are now wives and mothers and can *imu* as much as anyone at the slightest provocation though they have not been bitten by snakes.

As to the cause of this complaint the Ainu know of none but demons ; they look upon it merely as a mild kind of quite natural temporary possession which, as it cannot be cured must be made the best of and endured.

I have communicated the facts and shown some of the patients to a Japanese doctor in Sapporo. He says that he cannot account for it and calls the complaint simply a kind of hysteria.

17.—ISHIRISHINA.

(*To bewitch*).

The Ainu being such a highly superstitious race as they have been proved to be,* and such strong believers in the existence of very powerful spiritual beings both of a good and evil disposition which are constantly making themselves felt among us and upon us through innumerable agencies, and seeing, moreover, that this people is unshaken in its belief that there is a great dualistic warfare ever raging in the world and that the one object for which this battle is carried on is the good or ill, weal or woe of mankind, we are not at all surprised to find that they also believe in human witchcraft and stand in great dread of the witch. A curious case of supposed witchcraft has just come under my notice and the person thought to be bewitched is at the present moment (Feb. 17th 1896), under my roof at Sapporo. He is a man aged 29 and has for a long time been suffering from a disease which has developed into *enteritis acuta*. Last autumn a medicine-

* See particularly Nos. 1, 7, 10 and 15 of the present paper.

man came to his house and informed him that he was bewitched by his elder brother's wife, and offered to cure him of the malady induced by the witch. But, in order that the whole case may be placed before you I here give *in toto* what I wrote down from the man's lips when he told me of the matter, leaving explanations for the end.

The Ainu's account.

<p>Ku tashum wa ku hotke wa ku an, awa, orota Nupki- pet un tusu-guru ek wa ku kot tashum aisamka kuni ne ari iki koro an. Koroka, kuani anak ne ku umbipka wa moshima no ku an. Awa, orowa ku mipihi hasami ani ayaspa wa an; koroka, hei- kachi hene iki ruwe ne kuni ku ramu gusu, moshima no ku an. Awa, tusu-guru ene itak-hi:—"Nep gusu e mi- pihi ayaspa hike moshima no an ya"? sekoro itak. "Nep gusu ne ya"? ari ku itak. Awa, ene itak-hi:— Kugoro "yupo machihi amip yaspa ruwe ne," sekoro itak. "Tambe anak ne shi no wen kamui turen wa gusu iki-hi ne," sekoro itak. Koroka, ku umbipka gusu, moshima ne ku an. Awa, ku goro michi otta oman wa nei no ye nisa. Orota kugoro mi- chi ene itak-hi:—"Son no e tusu wa e eramu ambe ne yakun, nei shiwentop turen</p>	<p>As I was lying ill a medicine-man came to me to perform ceremonies in order to do away with my complaint. But as I did not believe in him I left him to himself. Now, my clothes had been cut with a pair of scissors; but, supposing it to have been done by a lad I thought no more of it. Then the medicine-man said:—"Why do you let this matter of cut clothes abide"? I replied, "Ah, why is it"? He then told me that "the wife of my elder brother had cut the clothes." "This," he said, "has happened through the influence of the very evil god (devil)." But as I did not believe him, I let the matter alone. Upon this he went to my father and said the same to him. My father replied. "If by your divi- nation you surely know this, it will be well for you to</p>
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wen kamui obosore kuni ne, Kamui otta ye, yakun, piri-ka sekoro itak. Tambe gusu, nei tusu-guru Kamui otta inonno-itak; awa, nei shiwentep shikashke wa Nikap kotan ta koro yupo tak gusu oman wa tura wa ek hine, nei okkaiyo ene itak-hi :—“ Son no shiwentep amip yaspa ruwe he an, tusu-guru otta ye wa inu,” sekoro itak. Kuani anak ne ku umbipka gusu ku uni ta ku hotke wa ku an; awa, orota nei shiwentep yupihi en hotuyekara wa ku oman; awa, nei guru ne yakka ene itakshi : — “ Eani moshima shiwentep e eramasui wa gusu shomo e mipihi ayaspa ruwe he an ? ” sekoro itak. Shi no ku irushka : “ Kuani anak ne tashum patek ku ki wa ku hotke wa ku an, awa, nep shiwentep ku eramasu hawe ne ya ? ” ari ku itak. “ Orowa, kuani anak ne pon heikachi hene iki ruwe ne kuni ku ramu gusu, moshima no ku an, awa, tan tusu-guru shiwentep iki ruwe ne sekoro itak ; koro-ka, ku umbipka gusu moshima no ku an, awa, orota

ask God to drive out the devil which acted through the woman.” Therefore the medicine-man prayed to God ; nevertheless, the woman, denying the matter went to the village of Nikap and fetched her husband ; That young man said :—“ Ask the medicine man whether the woman really cut the clothes.” But as I did not believe she did it I remained at home in bed. After this the elder brother of the woman called me to him, and he also said to me :—“ Have your clothes not been cut because you are in love with some other woman ? ” I was very angry at this ; and said, “ as for me, I am ill all the time and lying down, with what woman should I fall in love ? ” and “ as I thought it had been done by a little lad I took no notice of it, but this medicine man says that the woman did it ; however, as I disbelieved him I am allowing the matter to rest ; but you have come to me and speak in this manner. As I do not believe it,

echi araki wa ene echi itak- I prefer to let the matter
hi an. Kuani anak ne ku alone."
umbipka gusu, moshima no
ku au."

Orowa, nei shiwentep yu- After this the woman and
pihi tura no nei tusu-guru her elder brother upbraided
kosakayokara. Awa, nei the medicine-man, where-
tusu-guru irushka wa ene upon he got angry and
itak-hi:—"Son no eani e said:—"Do you indeed deny
shikashke hawe he au? it? As for me, by the
Kuani anak ne, Kamui en inspiration of God I know
turen gusu wen-buri e koro the whole of your evil
katu obitta ku eraman; awa, deeds; and, are you in
son no e irara gusu he e truth so utterly depraved
hawe au, sekoro itak. Orowa, that you spoke so? Now
son no e irara yakun, teeda as you behave in such a
anak ne wen-buri koro guru depraved manner I will
ene apakashnu-hi ne gusu, punish you in the same way
nei no echi pakashnu na." as was done in such cases
Sekoro itak koro, hopuni in ancient time." So saying
wa "shiwentep tekehe abe he got up and said "I will
ku omare kasu ne," sekoro put fire into the woman's
itak. Orota, kuani anak ne hand." Upon this, thinking
shiwentep ishitomare hawe that he said it to frighten
ne kuni ku ramu gusu, her, I remained quiet. But
moshima no ku an. Awa, he really did place fire in
son no poka, shiwentep her hand. I then said to
tekehe abe omare nisa ruwe them, "Such a process is
ne. Orota kuani ene ku exceedingly bad, do not do
itak-hi:—"Shi no wen shi it." And I made them
riki ne na; iteki nei no iki stop; all the people stopped.
yan," sekoro ku itak. Orowa,
shinire ruwe ne; ainu obitta
shini nisa ruwe ne.

Orowa, nei tusu-guru ene Then the medicine man
itak-hi:—"Son no shiwen- said, "If the woman's de-

tep shikashke, shiwentep amip yaspa shimoki a ya-kun, tekehe shomo uhui nangoro gusu, ainu obitta shiruwande yan. Orowa, amip yaspa ishirishina wen-buri koro ayakun, tekehe uhui kem ki araka hem ki nangoro gusu, Ainu obitta shiruwande yan," sekoro itak.

Orowa, kuani anak ne tusu-guru shi no wen-buri koro shiri ne kuni ku ramu koro, ku uni ta ku hoshipi wa ku an. Awa, nei a shiwentep tekehe uhui wa araka ruwe ne. Awa, nei tusu-guru ene itak-hi:—"Ingara yan, ene ani ne; wen-buri koro yakun ene nehi ne na," sekoro itak ruwe ne. Koroka, kuani anak ne shi no wen-buri ne kuui ku ramu gusu moshima no ku an. Awa, nei shiwentep yupihi tuu-pish an ruwe ne; awa, shine yupi shi no irushka hawe ene ani:—

"Nep gusu en sempirigeta echi en nure shomoki no shiwentep tekehe echi uhuika ya?" sekoro itak. Shi no irushka. Orota ene ku itak-hi:—"Ku kentum

nial is true and she did not cut the clothes, her hand for that reason will not be burnt, let all the people watch. But if she did cut the clothes and has wickedly bewitched the man, the hand will for that reason both burn and she suffer pain, let all the people watch."

Now, as I thought that the medicine man was acting in a very wicked way, I returned to my home. Then that woman's hand was burnt and she suffered pain. Upon this the medicine man said:—"See here so it is; those who have done evil are effected so." But as for me, considering the action to be very bad, I left them to themselves. Now, the woman had two elder brothers; and one of them being very angry spake thus:—

"Why have you secretly and without letting me know burnt the woman's hand." He was very angry. I said to him:—"It was not my wish but that of the medi-

shomo ne, tusu-guru keutum ne; kuani anak ne shi no tusu-guru wen buri koro shiri ne kuni ku ramu ruwe ne," sekoro ku itak. Koroka nei guru shi no irushka wa ene itak-hi:—"Nep gusu shomo echi en nure yakun, echi obitta echi keutem ne nangoro," sekoro itak. Orowa, Yakusho nure nisa ruwe no. Orowa, Yakusho orowa no kambi ek nisa. Tusu-guru hemhem, kuani hemhem, kugoro michi hemhem shotuyekara kambi ek nisa ruwe ne. Orowa, tusu-guru tura no ku oman ruwe ne. Yakusho otta abup ash. Awa, "nep gusu shiwentep tekehe uhuka ya" sekoro tono itak. Orotu ene ku itak-hi:—"Kuani anak ne pon heikachi hene amip yaspa ruwe ne kuni ku ramu, awa, toau tusu-guru shiwentep ne sekoro itak koro tekehe abe omare nisa. Shi no wen shiri ne kuni ku ramu gusu iteki nei no iki yan sekoro ku itak ruwe ne, sekoro tono otta an korachi, shunge sak no ku ye nisa ruwe ne. Orowa, tono ene itak-hi:—"Nep gusu tan tusu-guru cine-mau; as for me I considered him to be acting very wickedly indeed." But, he, being exceedingly angry, said:—"If it be asked why you did not let me know, it was because you all took part in it." He then reported the matter to the Japanese Authorities. After this a summons came from the Government offices for the medicine-man, myself, and my father to appear in court. I went with the medicine man, and we entered the court together. After this the official said to me:—"Why have you burnt the woman's hand?" I replied saying:—"I thought that a little boy had cut my clothes, but that medicine-man there, saying that the woman cut them, placed some fire in her hand. Thinking that it was bad to do so I told him to desist." Indeed, I told him truly just as things happened. The official then said:—"Why did you—this medicine-mau—burn the woman's hand?" The medicine-man said:—"As for me it was because I was

shiwentep tekehe e uhuika ya?" sekoro itak. Orowa tusu-guru ene itak-bi:—"Kuani anak ne Kamui en turen gusu, Kamui orowa no wen-buri nukan nisa. Tan shiwentep anak ne sou no wen-buri koro ishirishina hem ki wa gusu, koro wen-buri obosore kusu ne; awa, koro yupo tura no ek wa ikosakayokara shikashke gusu wen no iye nisa wa gusu, Kamui irushka gusu, shiwentep apakashnu nisa ruwe ne," sekoro itak. Orota tono ene itak-bi:—"Shi no wen-buri ne, shiwentep yu-pihi ne yakka shi no wen, nep gusu e utari-bi tekehe auhuika hike moshina no e an ya?" sekoro itak. Shi no nei guru aapapu ruwe ne. Orowa, "tusu-guru anak ne nep Kamui turen wa tusu ya"? sekoro itak. Awa, upshoro wa chironnup sapa shinep, orowa chikap sapa shinep sange ruwe ne. Awa, tono utara shi no mina. "Nep kamui ta okai ya? Ichakkere wen kamui ne gusu shitofu oshiketa omare wa uhuika kusu ne, sekoro tono utara itak. Awa, shi no tusu-guru ekimatek ruwe ne.

inspired by God, and because God had shown me her evil deeds. With reference to this woman it was because she acted so wickedly as to bewitch one, and because I was going to drive out the evil; but because she came with her elder brother and upbraided me, and because denying the fact she spoke against me, God was angry and punished her." The official said to them: "This is a wicked thing. Both the woman and her brother are very bad, why did your relations leave you alone to have your hand burnt." The man then begged for pardon. The official then said:—"Medicine-man, what gods inspired you to prophecy"? Thereupon he took out from his bosom the skulls of a fox and a bird. The officials laughed very heartily at this, and said:—"What gods are these? As they are filthy devils, we will burn them in the stove." The medicine-man was very much frightened at this.

This is all there is in the case that I consider worth recording. That medicine-man was placed in prison for one night, and to his great joy and comfort allowed to take his fox and bird's skulls with him when he was released the next day. This is probably the very last case of bewitching and divination we shall ever hear of as taking place among this fast disappearing people, and I consider myself fortunate to have had this one brought before me so fully. The man supposed to be bewitched is a Christian of two years standing, this will account for his scepticism of the powers of the witch or the medicine-man.

There are several things in this account well worth considering and the first to which I would draw your attention is what the Ainu consider to be the nature of witchcraft.

1.—THE NATURE OF WITCHCRAFT.

The word *Ishirishina*, which I have translated by the verb "to bewitch" really means in essence "to bind up fast," or "to tie up tightly." And thus with reference to the present psychological subject it comes to mean a binding up of the life, spirit or soul of a person. If it be asked with *what* the life, spirit, or soul be bound the reply is, with *uoitakushi*, i. e. "a cursing," for this word is sometimes used as a synonym for "to bewitch." And if again it be asked by what process of words bewitching is accomplished the reply is, by *Pon itak-ki*, i. e. "doing the little talk," which also means "to mesmerize." Again, should one ask what is the result of being bewitched the reply is in the present case, it is supposed to be a lingering illness ending in death. If it be asked how are the effects of the curse to be counteracted the reply is, by the exorcism of the medicine-man. And if, lastly, one asks how

the witch may be found out and made to confess the answer is, call in the medicine-man to find out and apply the ordeal of fire.*

2.—THE USE OF THE FOX AND BIRD'S SKULLS.

In the above account we were told that the Ainu, when asked by the Japanese officials as to what gods inspired him to know the culprit, he took from his bosom the skulls of a fox and bird. He had used these for divination, that was the part they played in the matter, I find among my papers a note on this very subject which I take this opportunity of bringing into daylight. It is as follows :—

On some occasions, when ordeal is not resorted to, a kind of divination is performed ; but this is indulged in with the special purpose of finding out a culprit by the finger of the gods and not through the confession of the supposed wicked doer himself. The following incident, which came under my direct observation will well serve to illustrate my meaning.

In one of the Ainu villages in which I have spent many months one of the men, with whom I am well acquainted, was one day very angry at having lost a paper dollar. He had a strong suspicion that a particular young woman, his daughter in fact, who was married and lived next door, had stolen the money. He accordingly accused her of the deed. But as she refused to confess, and stoutly and persistently denied the charge, her father proceeded to perform what the Ainu call by the various names of, *Niwok-ki marapto*, "the ceremony of discovery"; *Shitumbe marapto*, "the ceremony of the fox"; or *Kema*

* For ordeals see my book "The Ainu of Japan," page 135.

koshne guru marapto, "the ceremony of the light-footed person;" the fox being so called on account of the rapidity with which it can get out of one's way.

This "ceremony of the fox" is a sort of divination by means of which the guilt or innocence of an accused person is supposed to be established, and is very closely allied to trial by ordeal. In the present case, however, though the person was brought in guilty, and implicit faith was placed in the decision, there appears to have been a mistake, for shortly afterwards the dollar was found; but it was quite against the father's dignity to tell his daughter so. I verily believe that he was angry to find out that his divination had played him false.

Every married Ainu keeps one fox's skull, carefully decorated with shavings, stowed away among his treasures in the eastern or sacred end of his hut. With this he divines, should he have lost anything or should something have gone wrong in any other way with him. In such a case he takes the skull from its corner and, after having prayed over it and told it all his troubles, asks it to make known to him the cause. Should the spirit of the skull be favourable it will show him the whole matter in a dream.

The ceremony concerning which I am now speaking was conducted as follows:—The accused person was brought into the hut of her father and made to sit in front of him. He then produced his fox's skull, prayed before it, told it of his loss and asked it to favour him by answering truly. He next separated the lower jaw from the rest of the skull. The top part of the skull, which is called *sapa num*, was reverently put on one side, and the jaw placed upon his head, teeth upwards. He then gently lent forward so as to allow the jaw to gradually slip to the floor. As it fell with the teeth to the ground his daughter was thereby proved guilty; but should it have fallen with the teeth upwards she

would have been declared innocent. The person proved guilty was called *Ko-niwok guru*, "the person pointed out" or "discovered."

Should it have happened, however, that the loser of the money had no suspicion as to the thief, he would have tied a long piece of string to the skull, and, having gathered up the string in a bunch in his hand, would have caused an assembly of likely people each to take one piece of the string and all pull together. He who took the piece immediately attached to the skull would have been the person pointed out" as the culprit. It is needless to add that the Ainus have implicit confidence in this curious ceremony, though it does play them false sometimes. I should also remark that many Ainu men, when going on a long journey, reverently carry a fox's skull and a bird's head among their luggage; with these they divine, and determine which way to take or which of two things should be done next.

3.—EXTERNAL METHODS OF BEWITCHING.

In the case before us the clothes of the person supposed to be bewitched were found to have been cut with a pair of scissors. That is to say, a number of little holes were cut out of the garments. In the case of exorcism* to which I directed your attention above we found that the garments were cut with a sickle in long slits; these we see were cut with scissors and in little holes. The former was probably to kill an evil spirit outright for a good purpose, the present to kill a man slowly out of spite or jealousy. There is some underlying mystery about this cutting which the Ainu cannot explain; the only reason they can give for it is that it is an old way of their forefathers, they therefore do it also.

* See No. 1 of the present paper.

The only other way of bewitching a person that I am certain of is by what the Ainu call *imosh*. This consists in making an image of mugwort (*noya*) to represent the victim. As soon as made it is cursed under the name of the victim, taken to his house and buried quite near it. The result is supposed to be misfortune, illness and death. This supposed likeness of the victim is called *imosh*, and is said to be the *noka*, i.e. "image" of the person bewitched.

APPENDIX 1.

The elder-tree.

OSHPARA-NI; ONNE CHIKUNI; SOKO-NI.

Sambucus racemosa var. *pubescens*.

(コブノキ.ニハトコ.)

In the Horobetsu district the bark of this tree is used in decoction and given to women immediately after childbirth. It is said to be good for the after-pains. One dose only, however, is given. The Alder (*alnus japonica*, *miq.*) is also used for the same purpose and prepared in the same manner by the women of some districts.* I find that some women of the Horobetsu district give a decoction of alder first and afterwards a dose of elder; each woman making and administering the medicine as she thinks best. The elder is also used as a charm against contagious disease. After childbirth a poultice of the bark of either of these trees is made and placed on the stomach to promote contraction of the womb.

* See Trans: of the Asiatic Society of Japan. Vol: XXI, page 210, No. 32.—V. Nitat-kene.

APPENDIX 2.

RIYAHAM-USHI.

Daphni-phyllum humile, Maxim.

Yezo-yuzuriha. (エゾユヅリハ.)

The leaves of this plant are sometimes dried and used as a medicine. They are cut up fine and a decoction made by pouring hot water on them. This taken three times daily for three or four days is said to cure pains in the loins and pelvis.* It is also given by some women at time of childbirth.

APPENDIX 3.

RASUPA-NI.

Hydrangea paniculata.

Sabita. Nori-no-ki. (サビタノリノキ.)

The inner bark of this shrub is used as medicine by some Ainu, and also as a wash for clearing the head of scurf. After the outer bark has been taken off, boiling water is poured on the yellow portions left, making, it is said, a kind of thick mucilage. The head is washed with this and warm water. It is said to be very effectual in taking away scurf and scabs from under the hair.

In cases of hard labour in childbirth, as for example these caused by the "Breech" and "shoulder" presentation, the women apply this this mucilaginous substance to the womb. In the former case it is said to dilate or enlarge the passage, and in the latter to cause the child to right itself.

* See Trans: of the Asiatic Society of Japan. Vol. XXI, page 228, No. 102.

A REVIEW OF THE HISTORY OF
FORMOSA, AND A SKETCH OF THE
LIFE OF KOXINGA, THE FIRST KING
OF FORMOSA.

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[*Read May 28th, 1896.*]

During the reign of the Yuan dynasty, A.D. 1480, Wan-san-ho, an officer of the Chinese court, returned to his home from an adventurous voyage and informed his countrymen that he had been driven by a storm upon an island lying to the east and south of China, and that through the kindness of the natives his ship was repaired so that he might depart. A century later, a blood-thirsty pirate who had been driven from the Pescadores by Chinese war-ships took refuge on this same land, and not having been able to obtain revenge upon his Chinese enemies, he sought vent for his anger by slaughtering all the natives he could lay hands on, and then, smearing his ship with their blood, sailed away. In later years many Chinese pirates followed, finding that the new land offered them a safe retreat. It was from their descriptions that the existence of the island became generally known in China, and was at that time given the name Taiwan (Terrace Bay), which it has borne to the present day.

During the fifteenth and sixteenth centuries, the island was also visited by piratical parties of Japanese who gave to it the name of Takasagojima.

Near the close of the sixteenth century, the Portuguese, who were the first Europeans known to visit it, settled in the vicinity of the present village of Kelung, and gave to the island the name of "Formosa," signifying "Beautiful."

Formosa with its area of 14,982 square miles is about half the size of Ireland, or a trifle larger than the American states of Vermont and Connecticut taken together. Measured from the northern to the southern extremity, the island is 245 miles in length, and its greatest width is 76 miles. Through nearly its entire length, the island is intersected by a range of lofty mountains, while parallel ranges, receding in height as they lie towards the west coast, give to the traveller who approaches the west side of the island on a bright day, a beautiful view of four, and, in some points, five or six separate lines of waving colour, distinct and yet harmonious, rising higher and higher until the main ridge with its great elevations, capped by Mounts Morrison and Sylvia with their respective heights of twelve and thirteen thousand feet, finds an ending in a background still one shade lighter, the encircling sky.

This we owe, so the Chinese geographers inform us, to the dragons from the Woo-hoo-mun (five tiger gate), which was the entrance to Foo-chow, who having glided unseen through the depths of the ocean, arrived under the island of Formosa, and made their ascent by throwing up the bluff at Kelung Head, and then, writhing their way through the island with violent contortions, heaved up the regular series of hills and mountains.

The mountainous district is almost wholly confined to the eastern half, and continues to the eastern coast where cliffs with an estimated height of six thousand feet present a perpendicular face to the sea. These are the highest cliffs known, I believe, in the world. In the midst of these rugged scenes, we find that the descendants of the oldest

of Formosa's known inhabitants, the savage aborigines, have their homes. In the western half, the slope, intersected by numerous valleys, extends towards the sea, to be finally lost in the large undulating plain, over which the Dutch, the Chinese, and now the Japanese flags have successively floated. It is of this part, with the addition of good portions of the north and south, that I now speak.

The eastern districts, which with one exception have not yet been occupied by exploring parties, will soon cease to be a land of mystery, for the Japanese engineering parties are already planning extensive work there, and the story-tellers will be obliged to place the retreats of their favorite dragons, their streams running over beds of gold, their tribes of pigmies and of black giants, in other localities, if a believing audience is desired; and I am even afraid that some of the historical tales of the east coast, we have so much respected, will be found to contain much that is fiction.

So far as reliable data are concerned, the history of Formosa can only be traced back to the period when the island was occupied by the Dutch in 1624. Previous to that time neither the Chinese nor the Portuguese had made any organized attempt to secure the island for their respective countries, and it remained for the Japanese to take the initiative in that direction. It was perhaps due to the internal warfare that bold Japanese adventurers attempted to enlarge their domain by reaching out to the islands of the south. Many expeditions were engaged in the movement and their journeys carried them as far to the south-west as Formosa. The most formidable of these rovers was a band of men known as *Bahan* (God of War), pirates with the warlike retainers of the *Daimiōs* Murakami and Kōno as leaders. These adventurers were active in the north of the island as well as in the south-west. That many were something more than mere rovers and engaged themselves in establishing settlements, there is

Formosa was the headquarters for their trade. Raw silk and other articles for the European market were gathered there and when the ships arrived from Holland, the merchandise they brought was exchanged for the products of Japan and China which were then sent back to Europe by way of Java.

During the first year, the Dutch administration ruled undisturbed, but with the decay of the ruling dynasty in China, piracy, which became very general, embarrassed trade. The commander of these buccaneers, it was said, had as many as a thousand junks, with which he swept all the seas, so that scarcely a vessel could reach her destination in safety.

In 1687 the Dutch were subject to still greater trouble, for several war junks arrived from Japan under a commander who was determined upon obtaining justice. Not only had the Japanese lost large sums in trade, but the Dutch had confiscated considerable property. After long and bitter altercation, the visitors returned to Japan accompanied by sixteen natives who, on their arrival, as representatives of the inhabitants of Formosa, offered the island to the Japanese ruler. The Dutch now alarmed, sent a Mr. Nuits in all haste to Japan to confer with the *Shōgun*, who by bribes and persuasion was eventually induced to reject the advantageous offer. Upon returning to Formosa, Nuits was soon after appointed Governor, and took immediate advantage of his position to obtain full revenge upon the Japanese living in Formosa. Exasperated by repeated acts of aggression, these settlers resolved to make an example of the Governor. On one occasion, when a fleet of their junks were on the point of sailing, a party consisting of one Hamada Yabioye, his brother and son, Amanoya Tarozaemon and others, seven in all, gaining entrance to the Government House took Nuits prisoner. Since the garrison was very small, the surprise sudden, and a strong party rendered assistance to the

kidnappers, the best the captured Governor could do was to compromise the matter and instruct the Council to accede to all demands. The Japanese assured the Dutch that they would rather sacrifice their lives than submit to further ill-treatment. Having shewn such determination, they were no longer molested, and from that time onward they abstained from unruly proceedings.

The principal exports of the Dutch Company were raw silk and silk piece goods, and the imports were European manufactures and Indian produce. The whole Chinese trade employed about one million dollars and gave usually one hundred per cent. profit.

Attracted by the increasing prosperity of the Dutch Company, the Spanish in 1626, at the close of the term of administration of the Manila Governor, Fernando de Silva, founded a colony and built a fort on the north-east coast near the present village of Kelung. The Dutch, greatly offended at these proceedings, made known their displeasure, and the Spanish but ill supplied with the munitions of war, surrendered in 1642 and left the island. The Dutch now having obtained a foot-hold in the north, established factories there, as well as constructed a substantial brick fort at Tamsui.

The Japanese not contented under Dutch rule gradually withdrew from the island, but the Chinese increased with great rapidity until all the districts around the Dutch factories were occupied by these people and the capitation tax yielded 200,000 guilders annually. For a time this latter class submitted to the various taxations without murmuring, but eventually, dissatisfied with the rule of the foreigners, they attempted the betterment of their condition by rising in rebellion, with the hope that their superiority in numbers would be effective against the superior arms of the Dutch. In this they were disappointed, for the foreigners, gathering about them nearly 2,000 native Christians, attacked the rebels with great force, so that

the slaughter was very heavy among them, especially as the natives took this opportunity to obtain revenge for the many years of cruelty they had endured at the hands of the Chinese.

These natives seemed to be a superior body when compared with the Chinese, and the Dutch owed much of their tranquility to them. They then occupied all of Formosa, the Chinese not having sufficient strength to force them from their lands as they did in later days. They were of good morals, and their miserable huts which were grouped about to form villages, were never far from a temple where they might worship. The work was done by the women, the men employing themselves in hunting stags. Their laws of wedlock were most curious, a married woman not living with her husband until she was thirty-seven years old, and it was a great disgrace should she give birth to a child before that day.

There was but little government among them, although each village generally had its chief, and whole districts were often engaged in bloody feuds. The aged were highly esteemed and possessed great power over the youth. Those who had proved themselves brave in battle were given the highest rank that could be bestowed. Burial of the dead was not practised, the corpse was fried at a fire, and after having been wrapped in cloth was preserved in a small building hung with curtains.

The religion of the natives being gross paganism, the Dutch made most vigorous efforts to convert them to Christianity. At that time Protestant missionaries were unknown, so ministers in the pay of the Government were sent for the work, and so successful were they that most of the villages around the Dutch factories were Christianized. In a pamphlet published in London in 1650, is related the history of the religious work and it is noted that "5900 East Indians in the Isles of Formosa" had accepted the Christian belief. Prominent in this

work was the establishment of schools, and the teaching of the Dutch language which was forced on all students.

The Dutch had now established factories in the far north. Their agents had travelled well through all parts of the island and savage chiefs who would acknowledge allegiance to them were given a sword, a pike, and a hook as the insignia of authority.

During the whole period of Dutch occupation in Formosa, China was visited with numerous calamities, not only from wars waged against them by foreign invaders, but the greater civil war which, gradually sweeping down with increasing force, overwhelmed the capital itself, and the invading Tartars, the ancestors of the present rulers of China, in 1644 drove the Mings from the throne.

Formosa gained many thousands of inhabitants by this long war, for the Chinese were flying to other countries in great numbers to escape the troubles of their own.

Among the daring spirits which those turbulent days produced was one Tei-shi-ryo, also called Chung Chilung, or Iquon, who succeeded to the command of a band of pirates who had their headquarters in Formosa. This man was born in a small village on the seashore in the Fokien provinces. His early life was a struggle with poverty, for his trade was that of a tailor, and people thought more of their lives during his time than they did of fine robes. He later emigrated to Macao where he served the Portuguese, and having received much Christian teaching while there, he became converted and was baptized by the name of Nicholas. Not destined to remain long on the tailor's bench, he sought greater opportunities by becoming a petty trader, and while thus engaged journeyed to Japan. This seemed the turning point in his eventful career, for success crowned his efforts from that time onward. He made his home at Hiroda (Hirada) in the dominion of the *daimyō* Ōmura, near the present city

of Nagasaki, and there married a Japanese woman of the Tagawa family to whom in the year 1624 was born a son named Teiseiko, better known as Koxinga, who lived to become one of the most extraordinary characters that ever appeared in China. His father from a petty trader grew by foreign trade to be the richest merchant in China, and afterwards at his own expense fitted out a fleet to oppose the Tartars. His success gradually drew around him a vast number of Chinese vessels till he became commander of as great a fleet as ever appeared in the China seas, and eventually attained by his political intrigues, vast undertakings, and piratical raids such great wealth that even the Chinese Emperor could not compete with him. His fleet of 3000 sail gave him command of the seas and none dared oppose him.

Not content with riches alone, this merchant king began to plot that he might become Emperor of China. To hide his designs he took up arms against the Tartars although it is said by some historians that at the same time he aided the Tartars by furnishing them such intelligence as he thought for his own advantage. He was declared General of all his forces, by the Chinese Emperor, and either suffered the Tartars to come into the three provinces, the only territory they had not already captured, or after useless battling surrendered to them as the only course. (Historical accounts differ on this point). At all events, the man seemed to have given an impression either of confidence or fear, for they made him King of Pinquan in South China, and loaded him with fine presents. It looks as though it were fear which influenced them, when we learn that having decoyed him out of the city and away from the haven where his fleet was anchored, they seized and carried him to Peking where he was made a prisoner and loaded with chains.

It was five years after the birth of Teiseiko that his father left for China and accepted the position of Com-

mandar-in-Chief of the Imperial forces. Soon after his departure, his wife gave birth to a second son who was named Shichizaemon¹ who spend his life wholly in Japan and did not develop the love for adventure and renown which made his elder brother so famous.

Not long after, the mother and Teiseiko left Japan to join the father at Nanking which was then the capital of China. Here the son at the age of fifteen was placed in the Imperial University where he was known by his school-mates as a heroic person rather than a scholar.

Upon reaching the age of twenty-two, accompanied by his father, Teiseiko was presented to the Chinese Emperor who, pleased with the young man's appearance as well no doubt as desirous of granting a favor to the father, conferred upon him the great honor of bearing the name Koxinga,—the honorable gentleman who bears the same family name as the Emperor. He was then appointed Commander of the Central Body Guard and was ennobled as a Count. This was at the beginning of the Tartar invasion, and soon after, the Emperor, unable to hold the capital, was driven out, and travelled as a wanderer to Foochow. After frequent overtures from the Tartars, the father alone weakened, and was eventually carried off to prison as mentioned above, while the son, now more determined than ever, betook himself to flight. The mother wished to join her son, but before she could leave her palace, it was suddenly surrounded by Tartars, and rather than surrender, the brave woman committed suicide. It was then that Koxinga, although he was the recipient of military honors, and had served as a civil officer, visited the Temple of Confucius, and casting his scholastic garments into a fire with much prayer and lamentation, resolved to

¹ The descendants of Shichizaemon served the Government for many years as interpreters of Chinese, and there reside to this day in Nagasaki certain Japanese who point with pride to their ancestor.

spend the rest of his days in armed opposition to the Tartar invaders. There were many stout loyalists with him, who in a similar manner pledged their allegiance to Koxinga and his cause, so that he was possessed with ninety learned men at once who were suitable for responsible offices under his command.

At about this time the Emperor of the Ming dynasty died at Foo-chow and was buried without the pomp and ceremony to which his rank entitled him. Soon after, Koxinga and his followers in two large war vessels went to Nan-ow (on the coast near Amoy), where he assembled several thousand soldiers under his standard. He styled himself "Count Koxinga, Commander-in-Chief," and established his headquarters on the island of Koro (Kulangsu) which is separated from Amoy by a narrow strait. This district still recognized the old dynasty, and several parties of Tartars who attempted to fortify themselves within its borders were attacked by Koxinga and in every instance were defeated and driven thence. But the first of many great victories was the defeat of a strong force at Tonan, which was considered so creditable an accomplishment that the rank of Duke was bestowed upon him. He also soon drove the Portuguese from Amoy and occupied that quarter with his troops. These successes brought to his standard pirates from all over the China seas and his power was fast becoming as formidable as that of his father before him.

Such a menace to the Tartar Government brought from them splendid offers of reward, if he would surrender, but these only increased his resoluteness through which he was soon able to point to seventy-two military stations which he had established in different parts of the provinces, and he threatened the capital itself. The Tartars, now greatly angered at the young Commander's obstinacy, took revenge on the father for the doings of the son by throwing him into a vile dungeon and adding fifteen chains to those

that were already laid upon him. But Koxinga was not to be stayed. Regardless of this, and planning the complete extirpation of the Tartars, he implored aid from the Japanese *Shōguns*, for with their assistance he believed success would be assured.

Not succeeding in this, Koxinga planned to move on to the capital, Nanking, alone. With this end in view, he reorganized his naval force, but while on his way with an expedition to Chekiang Province, a great storm arose and many of his ships were sunk, drowning eight thousand of his soldiers, amongst them his own son. Although in despair at this calamity, it did not delay him long, for his ships were soon repaired and we find him the next year with a new expedition ascending the Yang-tse-kiang river to attack Nanking. His force, Chinese history informs us, consisted of fifty thousand marines, fifty thousand cavalry and seventy thousand infantry. Of the latter, ten thousand were known as the "iron men," they being encased in heavy armour decorated with red spots like the leopard, and were always placed in the front rank that they might cut off the feet of the Tartar cavalry horses.

Koxinga, though opposed along the way, advanced steadily, gaining villages day by day, but having reached the city of Ching Kiang, a more serious obstacle was met, in the structure of a fort built in the river. It is described as consisting of timbers covered with earth, surrounded with walls built in some places so high that they stood thirty feet above the water, and mounted upon them were guns and cross bows. The fortification was ten miles long and horses could with safety travel over the whole surface.

Among the force sent to oppose Koxinga at this point, were many Tartar Generals who had become renowned from their achievements while battling against the armies of the old dynasty. But the young Commander was equal to them all, and after a five days' struggle, during which time he lost not a single boat, the Tartars retreated towards

the capital. Koxinga was now able to advance and secured several important stations. The Tartars, thoroughly alarmed, called for numerous reinforcements, which were speedily sent them, there being among the number large bands of warriors in iron armour which, it is said, glistened brilliantly in the sun. These haughty warriors sent this word to Koxinga and his men in a contemptuous manner, "Pirates are unworthy of our swords," but when they appeared in gorgeous battle array to fight with the "pirates," Koxinga fought so well that after three days the Tartars found that they were no match for him and retreated with great haste.

The young Commander then divided his forces into five divisions, carrying colors of red, white, black, blue and yellow. One division was armed with Japanese muskets, another with large spears, while there were corps of trumpeters, bearers of fire signals, color-bearers who were possessed with flags representing centipedes, etc., etc. All the forces were well drilled and disciplined, and the cavalry charges of the well mounted Tartars caused no confusion in the ranks.

At last the capital, Nanking, was reached and the retreating Tartars sought safety behind its walls.

Plans were now formed for the attack upon the city and the positions told off to the different divisions, but discontent and dissension which arose among his officers caused great confusion and resulted in defeat just as victory was within his grasp.

Stricken with grief he was obliged to return to Amoy, and with demoralization among his troops his fond hopes were doomed to disappointment. Regardless of this crushing blow, however, he was not induced to withdraw his opposition to the Tartars, but exerted himself to the utmost of his ability to keep them in a state of continual disturbance, while on account of his piracies the China Sea became impassable.

The Chinese inland had yielded to the Tartars and in token of submission had shaved their heads. Hence to deprive the enemy of provisions, the Tartars commanded all the villages and towns which stood along the shore to be burnt to the ground and the country laid waste, and no people were suffered on pain of death to live within three leagues of the coast. Because of these measures, and likewise because of the great losses inflicted upon him by the Hollanders who, being in league with the Tartars, attacked him both by land and sea, he found himself in such a perilous position that he began to look about for safer quarters. In this state of affairs the large and fertile island of Formosa attracted his attention, and he began secret preparations with the hopes of some day not far distant gaining the beautiful isle for his own.

The Dutch were not blind to the actions of Koxinga, however, and believing that he had Formosa in view they increased their vigilance. At the request of the Formosa Governor, twelve ships with large reinforcements were sent; but the Admiral, having received from Koxinga the assurance that "he had not the least thought of war against the company," believed there was no immediate danger and ordered the ships to other stations, while he returned home to accuse the Governor of unreasonable apprehensions.

The events then passing in the island were widely different from these conjectures, for Koxinga immediately on the departure of the Dutch fleet in 1660 appeared at the Pescadores, and on a favorable day sailed with 25,000 of his best men for Formosa. He reached the island safely, and, aided by thousands of his countrymen on shore, began to land not far from Fort Zelandia which, together with Fort Provintia, was garrisoned with 1,500 Dutch. He first stationed a number of his vessels between the two forts which had been constructed on opposite sides of the entrance, and occupied with his forces a position which would enable him to cut off communications between the

forts. The Governor seeing this ordered out 250 men to dislodge them from this post. Here occurred the first engagement. By the time the Dutch troops came up, 4,000 Chinese had already occupied the place; but confident that the enemy would not stand fire, the Dutch immediately attacked them. But instead of giving way, the Chinese returned the fire with musketry and arrows, and the Dutch, finding they were also being attacked on the flank, threw down their arms and fled, leaving the captain and nineteen men to the mercy of the enemy. One half only of their company reached the fort alive. The defence by sea was no better for, although the four ships in port attacked the junks and sunk a few, one was burnt by the Chinese fire boats and the rest escaped from the harbour, two to return again, but the third sailed for Batavia.

Koxinga now summoned the forts, threatening to put all to fire and sword if they did not surrender, saying;—"This island was the dominion of my father and should descend to none other but myself. Foreigners must go." The Dutch refused to yield to his demands and Koxinga laid siege to the forts, which held out nine months.

The European settlers in the island at this time numbered about 800, while there was a garrison of 2,200 men. The Dutch artillery, stores and merchandise were valued at eight million dollars.

The Chinese residents in the island had quarrelled with the Dutch from the first, and now that one of their own countrymen was opposing the foreigners, they came forward at once to assist, thus augmenting the forces of Koxinga to a hundred thousand strong.

It was useless for the Hollanders to strengthen their position, as it only led to the blockade being made more effective. The foreigners scattered throughout the country were also subjected to terrible suffering, and numbers were crucified. The rest of the Dutch were finally forced to surrender and departed in their remaining ship, March, 1661.

The history of the attack and the subsequent victory of Koxinga have been the subject of several papers published by different societies ; Campbell's " Missionary Success in Formosa " gives much space to it, and as it will also be treated at length in a forthcoming publication of my own, I hasten on to give space to such portions of the history as are not so generally known.

Koxinga, now freed from all opposition, distributed garrisons throughout the western part of Formosa and established himself at Fort Zelandia, where he lived in princely style. Chinese forms and customs were introduced and the population, and likewise the prosperity of the island, increased by leaps and bounds. The new ruler seems to have been as eminently fitted for diplomacy as he had been for the life of a rover of the seas, and although he spread his authority over a large district, he was able to hold it against all enemies.

The Dutch sent a really formidable force the next year, consisting of eight frigates and four sloops, styled by them the twelve " floating castles," with 139 guns and 1,284 men, but they failed to inflict the least injury upon the new ruler, although later, with the assistance of the Tartars, Amoy and Quemoy were captured.

So enthusiastic was Koxinga over his new possession, and so stable appeared his position in Formosa that he even looked beyond the beautiful isle to the Philippines, that rich group which lay with the northernmost islands but a few hours' sail to the south of his domain.

This truly clever man had formed the acquaintance of an Italian Dominican missionary named Victorio Riccio, whom he treated with the greatest of kindness and eventually made a Mandarin. With the thought of the Philippines, Koxinga skilfully turned his friendship to good account by sending, in 1662, Riccio to Manila as Ambassador to the Spanish Governor. The purport of the despatches he bore was that the Governor should pay tribute to

Koxinga or his colony would be attacked. A European friar converted into an ambassador for a Chinese pirate was something of a novelty, but the plan must have had its disadvantages. At all events, the reception accorded him left nothing to be desired; for as he rode through the streets in full uniform, troops were drawn up who saluted him as he passed. The Chinese were then living in or near the capital to a considerable number, and as they were known to have received letters from Formosa, they were at once accused by the Government of conniving at rebellion.

Most careful preparations were made, such as abolishing important outside forts that the Spanish forces might all be assembled at Manila, and when all was in readiness the Chinese were attacked. It is related in Juan de la Concepcion's History of the Philippines that upon the commencing of the massacre many peaceful Chinese traders in their terror hanged themselves; some escaped to the mountains, others were drowned in their attempts to escape by sea, but a few succeeded in reaching Formosa.

Riccio returned to Formosa and found Koxinga already preparing an expedition to be sent against the Spaniards; but before his plans were completed, he died of fever at the age of 39 having reigned only one year and nine months. Thus ended one of the most remarkable careers ever recorded in history.

The possessions of the father fell to the eldest son, Teikei, who appeared at the capital and, after slight opposition from Koxinga's younger brother, who disputed his claim to the throne, was acknowledged the rightful ruler of Formosa.

The young king appears to have been more interested in furthering peace and prosperity, than in conquering other lands, for we find him dispatching Riccio a second time to the Philippines with a treaty to establish commercial relations, while he sent word to the Dutch inviting them to join in the trade of Formosa, offering to

give them places for residence at either Kelung or Tamsui in the north, and furthermore to surrender the one hundred Dutch prisoners still confined in the island. He begged them to believe in his sincerity and no longer trust to the Tartars. This offer they refused to accept, but continued for some time to be deluded by the vain promises of the latter that they should be reinstated in Formosa, until it was too late and they were obliged to return to Batavia.

Teikei, still possessing the hatred for the Tartars that characterized his father, was about to join the king of Fokien in warfare to prevent the invasion of the Fokien territory, but, not being acknowledged by the king as a sovereign prince, he declared war against him on the spot, defeating him so badly that the Tartars were able to seize the province and appoint a viceroy to rule in his stead.

Teikei died at the age of thirty-four respected by all, having greatly promoted the prosperity of Formosa and established a good administration over all.

Teikokzo became in turn king, but, later, it being believed that he was not a true son of the deceased prince, he was driven from the throne and afterwards killed at the instigation of the true sons and their grandmother. The eldest of the surviving sons now came to the throne at the age of twelve years. His career was a troublous one, for the Tartars, all successful, first wrested from his dominions the Pescadores, and by granting pardon to all who would submit to the Tartar Emperor, greatly weakened his position in Formosa. At last he was induced to surrender, and in 1683 the island was resigned to the Tartar General, and Teikokzo was sent to Peking by order of the Chinese Emperor, who instead of punishing him, made him a duke. Thus for thirty-eight years after its fall on the main land, the old Ming Dynasty was recognized in Formosa in the face of the strongest opposition from the invaders, and this was due solely to the efforts of Koxinga, his son, and his grandson.

The island was now placed under the jurisdiction of the Viceroy of Fokien. It does not appear that there was any improvement in the subsequent administration; on the contrary the island became a hot-bed of revolution. A great many outlaws were attracted to Formosa by the opportunity it afforded for evading the laws of the mainland, and it was with difficulty that any semblance of government was preserved.

Chief among the many outbreaks, was the rebellion of 1722, which is said to have had its rise in opposition to the swarms of hungry officers who came over to Formosa "to devour the fat of the land."

There lived at that time a worthless character named Choo Yikwei, who, detested by the inhabitants of the village where he lived, left the place and became a police runner. Soon afterwards he lost this situation and having no other labour to turn his hand to, sought a livelihood by feeding ducks. These feathered tribes, as is their custom, marched daily out in regular rows like files of soldiers and returned in the evening in a similar manner. It is said that this gave to our hero the suggestion of military tactics, and he resolved to become a ruler of men rather than ducks.

He therefore sold his ducks and with the proceeds prepared a magnificent dinner to which were invited many outlaws from far and near. It was then he made known his plans for a rebellion.

Encouraged by the enthusiasm with which his proposals were met, he believed his position one of safety, and, by promising relief to all who were discontented, his strength eventually became such a menace to the authorities that troops were sent from China to oppose him.

The strong hand of the Empire was not judiciously applied, however, for innocent people were persecuted and confusion and misery spread broadcast, so that the masses generally were inclined to favor the rebels.

The rebellion grew daily in strength, and by a clever trick the Imperial troops were thrown off the track and the rebels entered the capital capturing much treasure and munitions of war, and capped their success by crowning the once humble duck feeder, Choo Yikwei, Emperor of Formosa.

This gave the Viceroy such a fright that he at once sent all the available soldiers of his district to Formosa. They were successful, and the rebels were soon dispersed, but not until a great part of the island had been laid waste and multitudes had been swept away by disease.

In 1788 the island was visited by a great typhoon which lasted for twelve hours. Public buildings, granaries, barracks, salt warehouses, and other large structures were destroyed, while private houses everywhere were reduced to ruins. Twelve ships of war wholly disappeared, and twelve more were destroyed, while two hundred other ships were lost. Enormous though the loss of life was, the number of deaths is unknown. It is said that subterranean convulsions may have conspired with the winds and thus increased the violence of the calamity.

The event was followed six years later by a great rebellion lasting until 1838—by far the most bloody that Formosa had ever witnessed. After forty-nine years of constant battling it was suppressed, but not without the loss of a hundred thousand men destroyed by disease or by the sword of the rebels, and at the expenditure of more than two millions of taels.

Count Benyowsky, a Hungarian nobleman who had been banished to Kamtschatka for having joined in a conspiracy against the Russians, seized a vessel and made his escape in company with ninety-six other persons. He touched at Japan, the Loochoo group, and finally in 1771 landed on the east coast of Formosa, making the shore in latitude $23^{\circ} 22' N$. He was not peacefully received by the natives, his landing parties being several times attacked.

The Count, however, seems to have secured full revenge, for on one occasion he killed according to his own account over two hundred natives after setting fire to their village while a few days later, at the instigation of his men, he made an attack on a party of savages who had killed three of his men, and slaughtered 1,156 according to his actual count.

Having thus defeated a large tribe of savages, his aid was begged by a friendly chief that he might join in an attack against the Chinese. He consented, and combining his forces with the savage tribes, and personally commanding the party, he was able to inflict a crushing defeat on the Chinese. For this service the chief bestowed upon him many valuable presents and endeavoured to persuade him to take up his permanent residence on the east coast, but it appears the Count from his past experience had some suspicion that his followers would not serve him loyally and accordingly bid farewell to his savage friends.

The subsequent history of Formosa is no doubt so well known that it is only necessary to refer to it in outline.

In 1842, the English ships *Nerbudda* and *Ann* were wrecked on the coast of Formosa. It was at the close of England's war with China, and the Chinese then considering any Englishman legitimate prey, carried 197 of the wrecked crew in cages to Taiwanfu and there decapitated them all.

To record the outrages that followed the establishment of foreign trade in the island would call for more space than I have at my disposal. To such an extent had the Chinese proved untrustworthy that in 1868, it was considered necessary for British marines to seize Fort Zelandia and hold the town of Anping until the Mandarins had fulfilled their promises. The savages of Formosa were especially atrocious, and hardly a year

passed without a murderous attack on the crew of some wrecked ship that the forces of the ocean had cast upon their shores. The very few who escaped death were sold into slavery, there being several authenticated cases of this ; and what may have taken place in the savage wilds without becoming known to the outside world, one hardly ventures to imagine.

The Americans sent in 1867 one ill-equipped expedition against the savages, which met with defeat and the loss of its commander, Lieutenant McKenzie. But it cannot be said, until the Japanese expedition, that civilized governments had made any real attempt to punish the natives.

In 1871 an open boat was cast ashore upon the southern coast of Formosa, and fifty-four of its crew, Loochooans, were cruelly murdered by members of the Botan tribe of savages. In a discussion between a Japanese envoy and the Chinese officials, the former was informed that the savage tribes did not come under Chinese jurisdiction. Japan decided therefore to take the matter into her own hands, and a large expedition was landed at Liang-kian, South Formosa, which afforded a convenient base for operations further inland. This action caused great dissatisfaction in Peking, but Japan gave little heed to the remonstrance which came from that quarter.

Military law was proclaimed over the whole south cape ; the Botans were punished and a substantial camp established. The Chinese, now thoroughly awakened, strengthened the defences of the island, built military roads, and landed, during the period the Japanese occupied the south, over ten thousand troops to reinforce their regular forces. War was, however, averted by diplomatic measures, and Formosa settled down again for a few years of peace.

In 1884 and 1885 trouble again came to the turbulent island by the French attempting to take Formosa as a security for the indemnity promised by China during the

Franco-Chinese war. The attack was made in the north of the island, the French capturing the Chinese fort at Kelung, destroying its five modern Krupp guns, and there establishing their camp and headquarters. Tamsui was bombarded and an attempt made to land, but the French were driven back to their boats by the Chinese. Later a blockade of the whole island was declared with the exception of the east coast, which continued through the whole winter.

A treaty was signed in June, the blockade was raised and Kelung evacuated. The Chinese it was estimated had about fifty thousand soldiers in the north, and during the campaign great numbers were lost by battle and disease.

When the news of the cession of Formosa to the Japanese at the close of the late war reached the official class in the island great was the dissatisfaction. That the island might still be held by the Chinese, it was decided to declare it a republic. Accordingly on May 24th, ex-Governor Tang was elected President, and the foreign powers were officially notified.

The capital of the new nation was established in the north at Taipeifu; and a large force was mobilized there, and throughout the northern districts proclamations were issued announcing the formation of the republic in the following terms:—

“The Japanese have affronted China by annexing our territory of Formosa, and the supplications of us, the people of Formosa, at the portals of the throne, have been made in vain. We now learn that the Japanese slaves are about to arrive.

“If we suffer this, the land of our hearths and homes will become the land of savages and barbarians, but if we do not suffer it, our condition of comparative weakness will certainly not endure long.

“Frequent conferences have been held with the foreign powers, who all aver that the people of Formosa must establish their independence before the powers will assist them.

"Now, therefore, we, the people of Formosa, are irrevocably resolved to die before we serve the enemy, and we have in council determined to convert the whole island of Formosa into a republican state, and that the administration of all our state affairs should be organized and carried on by the deliberations and decisions of officers publicly elected by us, the people. But in this enterprise there is needed, as well for the resistance to the Japanese aggression as for the administration, a man to have chief control in whom authority shall be assured. Therefore, in view of the respect and admiration in which we have long held the Governor and Commander-in-Chief, Tang Ching Sung, we have in council determined to raise him to the position of President of the Republic.

"An official seal has been cut, and on the second day of the fifth month, at the 's s u' hour (9 a.m. May 25th), it will be publicly presented, with all respect, by the notables and people, farmers and merchants, artisans and tradesmen; all must assemble at the Tuan Fang meeting house that we may in a grave and solemn manner inaugurate this undertaking. "Let there be neither delay nor mistakes.

"A declaration for the whole of Formosa."

The flag of the republic was a rather pleasing combination, with a blue ground and a yellow tiger in the centre, possessing a tail which took up more space than is usually allotted to a real tiger.

The Japanese landed a force on the north-east coast, May 30th, and on the third of June, after bombarding the forts, Kelung was occupied.

A few days later the Chinese soldiers, getting the better of their officers, made an attack upon the capital, looting and burning the Government buildings, including the yâmen of President Tang, firing the powder magazine and generally doing great damage.

At Tamsui the German steamship *Arthur* with the fleeing President on board was fired upon from a Chinese fort, and the German gunboat *Ilitis* was compelled to clear for action and open fire in return, with the result that the Chinese were driven back from their position.

June 7th the Japanese forces reached Taipehfu practically unopposed, and Count Admiral Kabayama established his headquarters at Taipehfu.

The capital of the Formosan Republic was now removed to Tainanfu and Liu Yungfu the famous Black Flag Chief, was declared president. One issue of paper notes, with values of \$1, \$5, \$10, and two issues of postage stamps with values of 3c., 5c., and 10c. were made, and various other measures taken to raise funds for the Government.

In October the Japanese closed in upon Liu and his soldiers from three directions, with the result that Takow fell an easy capture. General Liu with numbers of his officers escaped and fled on the nineteenth for the mainland. Anping and Tainanfu surrendered on the 21st, and the republic of Formosa, which had existed since May 24th, was no more.

THE INFLUENCE OF GRECO-PERSIAN ART ON JAPANESE ARTS.

BY REV. ISAAC DOOMAN.

[*Read Nov. 18th, 1897.*]

CHAP. I.

INTRODUCTORY REMARKS.

The title of this essay might be misleading if left without a few words of explanation. By the Greco-Persian influence we do not mean the influences of these two ancient empires in exclusion of all the rest ; but our intention is to examine the influence of that venerable civilization which is the legitimate progenitor of all the modern Arts and Sciences, and whose center of birth, growth and maturity was occidental Asia, oriental Europe, and Egypt in Africa. In the progress of the diverse component elements of this civilization towards an ultimate synthesis, Greece was the last arrival, but through her many-sided intellect for observation and easy comprehension and assimilation she speedily realized the ideal towards which all were tending, and in a most happy manner successfully accomplished in its entirety the work in which all the rest had been separately engaged for ages. Hence Greece will stand forever as the consummator and representative of all that is highest and noblest in man. But to divorce Greece art and civilization from its ancient ancestry will be attended with many complicated results : its nativity will be obscure, its growth incomprehensible, and its manifold ideas will remain unintelligible.

Persia is connected here with Greece not because it has played a considerable part in the art-drama of our world, but as the sole exponent and the only medium through which those elevating influences of Western thought must have passed to the Aryan and non-Aryan—Semitic and Mongolian—races of Asia.

At once will be observed the vast expanse of historical territory which has to be traversed. We have not only to look into the present status of the fine-arts and general civilization, but must also go back thousands of years, in order, to unearth the long-ago defunct affinities and forgotten relations of the nations which have been the primal factors and remote parents of our culture and advanced life.

We have to study also the different parent languages and their infinite ramifications into dialects and sub-dialects, in order to find out the ethnological kinship of the races which have no exterior resemblances to each other. We shall have to investigate also the manners and habits of these peoples, and the peculiar modes of their thought and its manifold expressions. And finally we have to analyze thoroughly that most powerful and important force silently working in humanity and shaping its destiny towards a resonant unity—we mean religion.

The peculiar tendency and attitude of our age demand thorough analytical researches, and well-authenticated data in every department of study. The time for advancing vague generalizations and unsubstantiated hypotheses has passed away. But to treat such a vast field of studies exhaustively, nay, even to a limited extent of satisfaction in a short essay like the present one, is altogether beyond the reach of possibility, as each one of these individual subjects included in its sphere, requires a separate voluminous treatise. Indeed almost all of them, or at least, the most important ones, have for centuries arrested the attention and employed the powers of great talents, the final results of whose precious labours are the common property of

mankind. We do not therefore intend to do over again in an unsatisfactory manner what others already have achieved with praiseworthy ability. We shall try, however, to give a short sketch, or rather, a bird's-eye view of the results of their useful labours, with this prominent addition : We will endeavor to apply the principles and fundamental laws discovered in their several fields of researches and investigations to a wider sphere, and thereby enlarge the horizon of our mental observation. We shall not only hope to glance over the intercourse and kinship of close neighbours in remote antiquity like that of the Persians to the Assyrians, or the Greeks to the Romans ; but we shall attempt to advance a step further, and try to see the influence exercised by that great center of culture of which we have spoken above upon the distant countries of Asia,—China and Japan. By this means we may hope to succeed in finding out the exact quota of material which each individual member of this great community of nations has contributed toward the erection of this stupendous fabric of our modern civilization : to go through a dissecting process, so to speak, in order to find out the exact nature of the types, ideals, and tastes peculiar to each individual race of mankind.

In our nineteenth century we have witnessed, not without great joy, with the advancement of closer international relations and the widening of the sphere of human intercourse, the springing up of new sciences for the comparative study of the different thought-productions of mankind. To-day the studies of comparative philology, and to a certain extent, of comparative religions, are just as firmly established sciences as the study, say, of comparative anatomy or comparative chemistry. Not long ago none of the two first mentioned subjects were deemed fit topics for studying in a comparative method. Why then should not a new science for the comparative study of all art productions of the different civilised nations be inaugurated ? By

such a study alone shall we be enabled to see clearly those æsthetic forces which have guided them through their sinuous pathway of growth and progress.

The arts represent man in his most exalted and ennobled position : the stage in which he has forever crossed the line of selfish utility and reached the pure atmosphere of beauty. In art perhaps more than in anything else, if we except religion, man has been able to raise himself from a state of low animalism into the ever-extending realms of liberty and knowledge. The arts have polished and refined man's language—that great instrument of his hidden thoughts. They have facilitated the understanding of the recondite dogmas of his religion. They have broken the monotony of his prosaic existence into a prismatic variety. In fine, through art, perhaps more than through any other instrumentality, man has been capable of giving a happy birth to the mighty ideas conceived during the lofty flights of his imagination. Our condition as it would have been without soothing and beautifying activities of art is too horrid to contemplate. The ancient Greeks perhaps more than any other nation appreciated the value and service of art to the general evolution and progress of humanity. Aeschylus has illustrated this sentiment very thoroughly in that most horrible of all tragic dramas that ever a frenzied human fancy has conceived: "Prometheus Chained." Unfortunately two other dramas on the same subject by this most powerful and daring of Greek tragic dramatists are lost. Before the genesis of art the condition of humankind is thus pictured :

. " the raftered roof
They knew not ; but like ants still buried, delved
Deep in the earth, and scooped their sunless caves.

.
When the fell disease
Preyed on the human frame, relief was none ;
Nor healing drug, nor cool refreshing draught ;
Nor pain-assuaging unguent, but they pined

Without redress, and wasted away.

Until Prometheus taught each useful art to man !”

A department of human knowledge (for art is deeply and intimately concerned with knowledge ; nay more, art is knowledge itself) of such a paramount importance requires a more systematic method for the study of its principles, and a clearer scientific precision in the application of its laws to cognate subjects.

It should be observed here that a comparative study of the fine arts will not be attended by those irritating feelings and aggravating emotions which are the unavoidable consequences of a comparative study of the extant religions. Religion is the most sacred object to every human soul retaining still its inborn religious feelings. It is hidden in the innermost sanctuary of man's spirit. Therefore no one likes to observe the spectacle of this most holy of all his treasures ruthlessly dragged out and arraigned before a fallible tribunal, where its validity is questioned, its authenticity is impugned and its utility contested. A soul which has lost totally that instinctive love for the preservation and defence against all assaults of its religion ; and of the external personification of that religion in the doctrinal formulas and ritual observances under whose dominant influences his mental, moral and spiritual potentialities have been nurtured and developed, that soul has lost its inherent faculty for religious differentiation and judgment. Just as a man who has lost the sense of hearing will no longer be considered a competent judge of music, nor one who has lost his eye-sight of colors, so neither can the man who has lost the love of religion be considered a capable judge of the comparative religions. Human nature will never be able to divest itself completely of all its inborn prejudices and prepossessions ; if he has lost the old, we can safely affirm that he has created new ones in their place.

In the comparative study of the different languages also there are difficulties—although of quite a different nature—

sometimes almost insurmountable, which we do not encounter in the study of art. As previously observed, language is intimately connected with our hidden mental machinery; and hence the elements to be analyzed and compared with each other are extremely complex and oftentimes of conflicting tendencies. Not infrequently in the very grouping of them we commit egregious blunders, to be corrected only by time:

“Whose age as it advanceth, teaches all things.”

For centuries the Hungarian language was grouped with the European, and Turkish with the Semitic family of languages! Oftentimes by simply mistaking some superficial similarity between the sounds we are led to make hasty conclusions and claim the honour of discovering new ethnological relations. Indeed there is more danger of building up extravagant theories upon the unwarrantable deductions of philology than upon those of any other science.

But in the study of the diverse arts of all the art-loving and art-producing nations, there is very little danger of falling into any grave mistake such as the student of comparative philology is liable to fall into, because art is objective in its conception, genesis and growth to maturity. We can unmistakably perceive every stage of its upward ascent. An art idea which eternally remains subjective, and is unable to incarnate itself—if I may be allowed to use that sacred terminology—into a visible shape and form, that latent idea is alien to the world of art. The Laocoön of the marble and that of poetry are two distinct beings of two separate worlds, each subject to its own laws of life and criticism. Let us for a moment study this very pathetic story as given us by Virgil:—

“When (dreadful to behold), from sea we spied

Two serpents, ranked abreast the seas divide.

And smoothly sweep along the swelling tide.

Their flaming crests above the waves they show;

Their bellies seem to burn the seas below.
 Their speckled tails advance to steer their course.
 And on the sounding shore the flying billows force,
 And now the strand, and now the plain, they held ;
 Their ardent eyes with bloody streaks were filled ;
 Their nimble tongues they brandished as they came,
 And licked their hissing jaw that sputtered flame.
 We fled amazed : their destined way they take,
 And to Laocoön and his children make :
 And first around the tender boys they wind,
 Then with their sharpened fangs their limbs and bodies
 grind.

The wretched father running to their aid
 With pious haste, but vain, they next invade.
 Twice round his waist their winding volumes rolled ;
 And twice about his gasping throat they fold.
 The first thus doubly choked—their crests divide,
 And towering o'er his head in triumph ride.
 With both his hands he labours at the knots ;
 His belly filets the blue venom blots ;
 His roaring fills the flitting air around.
 Thus when an ox receives a glancing wound,
 He breaks his bonds, the fatal altar flies,
 And with loud bellowings breaks the yielding skies.

.
 Their tasks performed, the serpents quit their prey,
 And to the tower of Pallas make their way."

Here we have a story which in the imagery of its detailed incidents, and in the tragico-pathetic sentiments of the whole, falls far below the story of the boy Urashima as we have it in the Manyoshu, or, indeed, that of many other stories both historical and legendary which we have known since our childhood. But when suddenly we are brought face to face with the story as related in the marble, and that too when Greek Art was at the beginning of its decadence, into what a new world we are ushered ! What a pleasing

world of realism and inventive emotions ! The intense feelings of pain with unmistakable language sounding from every limb and part of the father's body, and the trustful affection with which the youths, now drowning in the midst of an overwhelming vortex of agony, are appealingly looking for aid from their helpless parent, compel us to become real participants of that awful tragic drama—spiritually to share the pain of the victims. In that small piece of marble the artist has comprised as many of the noble and suggestive thoughts with which we meet in our terrestrial abode, as Shakespeare has in any of his immortal tragic dramas. Who will for a moment venture to compare the story of Urashima as told in a *netsuke*, with that of Laocoön as told in the Vatican marble ?

Again the resemblance and similarity of all art objects is so strikingly impressive, and the impressions produced so lasting, that we are able to recognise even a meagre likeness with ease, that also after great lapse of time. Perhaps no other impressions in the whole range of objective phenomena, when once acquired, are so lastingly ineffaceable, as those of beauty and deformity. There is very little danger here of falling into harmful errors on account of ephemeral similitudes.

Nor yet will any spiritual sentiments disturb or ruffle the equanimity of our spirit in the comparative study of the fine-arts, as might well happen in that of the extant religious creeds. For in the vast ocean of æsthetical feelings and emotions every object is beautiful, and hence serene and calm. Even if some of the types of beauty found there be not in conformity with our own individual tastes, the very remembrance that they have for ages delighted, educated and elevated the æsthetic cravings of millions of our fellow men, ought to be more than a sufficient reward for our labours of love. Nay more, as no stage of organic life, however simple and low, is without its suggestive lessons bearing upon the gradual ascent of life ; so no stage of art,

however crude and barbarous, is devoid of valuable teachings relating to its gradual evolution.

By entering into such vast fields of study in aesthetics, we shall be helped gradually to form a catholicity of the spirit of beauty, which cannot be easily realized in the other departments of human studies. When once this catholicity, like a healthy atmosphere surrounds us, we can easily perceive the road leading into the inner sanctuary of the art of every nation. And by such means alone shall we be able to discover the path through which the Arts have been tending from every direction to the ultimate focalization. But in order to reach this "Inner Sanctuary," we must first pass through the "Court of the Gentiles," where we shall be able to see all sorts of motley ideas, crude and unhewn, strenuously striving and struggling for a final self-manifestation. There alone we can see and examine the nature and working method of the impelling power which produced such an unwieldy magnitude in Egypt, such a grotesque massiveness in Mesopotamia, such a mirth-exciting diminutiveness in the Japan of the Tokugawas, and such an ideal perfection in the divine Greece.

From the very nature and vastness of our studies, we shall not be able to pass all the art-products of so many nations, past and present, before our critical observation; such an undertaking would entail an amount of labour, and demand a degree of critical acumen and judgment, which we do not possess. This being beyond the scope of our limited time and powers, we shall yet endeavour with the help of a few well-known objects of art, and especially, of some principal art-tastes of the different nations who have greatly assisted the gradual advancement of culture and refinement, reach the latent psychological forces and innate ideas which have given a happy birth to such divine objects. Evidently without a minute study of these Art objects themselves, we cannot reach those hidden mines of thought out of which such priceless products have been hewn. But

Art is so sympathetic in its feelings, as we shall see later on, and universal in its relations to the other fields of our knowledge: to archaeology, religion, history, mythology, language and many others, that if each one of them contributes even a small amount of data bearing upon our subject, we shall be greatly helped to reach successfully the end of our toilsome journey. Then we can reach and know the exact essence of the subject, working out such wonderful miracles of objective and visible beauty. It is psychologically foreordained that no one shall reach the subject but through its object. Yet notwithstanding this priority in time, the subject, in its value and importance, will always occupy a higher place of honour than its object. "It is the spirit that quickeneth, the flesh profiteth nothing" is such an immutable truism in the world of art, as well as in that of knowledge, that no sophistry of argument will ever be able to dim or eclipse its shining truth, nor a fallacious logic diminish aught of its force.

CHAPTER II.

THE DOMINANT SPIRIT IN THE ANCIENT ART OF JAPAN.

The student who devotes his time to the study of early Japanese Art, especially of the Yamato period, is so constantly confronted, nay, I should rather say, is completely surrounded by a vast multitude of Art objects, essentially different in their conception, spirit, form and character from the whole native art of later days—whose nascent existence at this early period of Japanese civilization is scarcely observable—that he is compelled to look elsewhere for their origin and parentage, indeed for all those ante-natal circumstances which presage their happy genesis. Who, for example, would for a moment venture to aver that the artists who conceived and infused life into such gigantic works of the highest Art as the Nara Todaiji, the Nara Daibutsu, the Nara Ni-O, the Horiuji mural paintings, and still more recently the Kamakura Daibutsu, were

actuated by the same motives, their minds moulded by the same ideals, and governed by the same aesthetic laws as those who guided and governed the *ningyo* and *netsuke* carvers of the later years, or the dwarfed Tosa paintings? In the colossal monuments of Art and Architecture which these primitive giants have left us, we are unable to descry the imaginative faculty and ideas of the compatriots of the poets who wrote the *Shih-King*, or the *Manyoshu*; but we can clearly see revealed that complex mentality of the poets who composed the *Mahabharata* and the *Iliad*, the *Divina Comedia* and the *Shah-Namah* of *Firdousi*. At the very sight of these stupendous productions the observer is overawed by the grandeur of the conceptions, the immense mass of material manipulated in a most easy and untrammelled manner, and the freedom of action which the artist has displayed in every part of his work—a freedom often verging on rashness—though the final outcome has been a wonder of felicitous composition and harmonious combination.

Allow me to mention here, once more, the two *Ni-O* of the *Nara Todaiji*, which, in my opinion, are the most animated wood sculptures in the world. Of course I am not unaware of the fact that there is no piece of Japanese art, whatever its size, that is not brimful of life and animal spirit; the charge of monotony, or timidity, or insipidity or tameness, cannot be brought against it. It is in the loss of magnitude—the substitution of the miniature for the colossal—more than in other features, that its glyptic art has suffered.

Finally we are brought face to face with many physiognomical features and facial characteristics; and with the outline and contours of the complete human body, which are radically different from the racial types found in these beautiful islands, or in their immediate vicinity. In viewing the ancient Art of Japan we feel that we are in a new aesthetic world not unlike that which we see in the fragmentary remnants that have come down to us from the ruins

of that ancient Western civilization, so radically different from the pre-established art-notions of that group of nations commonly called Mongolian, whose birthplace must have been the easternmost parts of the continent of Asia.

Another feature of this alien element in Japanese art is, as already suggested, its primitiveness and antiquity. It began in the early Yamato civilization, where most naturally, we find a great majority of these wonderful works ; and where its Buddhist temples, even at this end of the nineteenth century, like those of the old Hellas are :

“ Graced with the forms of sculptured gods.”

After the decadence of the Yamato civilization, and the removal of the capital to Kyoto, we find this foreign influence, though still dominant, considerably reduced and enfeebled by the beginning of a native Art, more in consonance with the genius and tastes of the nation. It is this new art which later on under the Tokugawas, we find has not merely taken a position of super-eminence, but has almost completely superseded the foreign art ; suppressed its spirit and life and achieved a great revolution in the aesthetic world of Japan.

This new art (for the sake of perspecuity, let us call it “Tokugawa Art”) is in comparison with the Yamato Art considerably debased by effeminacy and luxury ; therefore though gorgeously adorned, and overburdened with gay ornamentations, when considered as pure art falls below its predecessor. The place of that vigorous and pleasing boldness, and that freedom of action and ease of movement so characteristic of the Yamato Art, is here taken by excessive polish, minute exactitude of the details, dazzling decorations and an over-sensuous and morbid refinement, which though extremely pleasing to a sensual eye, are not awe-striking.

In architecture, where the religious influence of Buddhism over the Tokugawa policy was displayed in the height of its splendour, we can see some of the best and most magnificent art productions of the Japan-

ese genius to be found in the whole course of its history. However, even here that massive grandeur and colossal immobility of the Nara and Kyoto architecture is greatly suppressed ; and in their place we see substituted an over abundance of that tender technique which is the product of assiduous labor, and not the healthy child of a frolicsome genius, and almost always proves fatal to the birth of a great work of art. Let us for a moment compare the Shiba-Nikko temples—which for ages to come will stand as the greatest representatives of the real, nay, sublime art of the Tokugawa Shogunate—with their resplendently lacquered columns, unsurpassable carvings, riotous tenniu (angels), dazzling altars, superfine embellishments and enervated decorations with the grim magnitude, and chilling simplicity of the austere Nara Todaiji. It is like putting a superbly adorned and beautiful maiden by the side of an armed giant: the former is pleasing, the latter fear-inspiring.

Here permit me to state that, I am not intending to show any antithetic tendencies between the old and new styles of Buddhist architecture in Japan. Indeed if there is any unbroken continuity of descent in the art-history of Japan, it will be found in the Buddhist Architecture. In painting, for example, the divergence from the original *Butsu-ye*, as we shall see later on, is most complete. In sculpture as already observed, the change is most lamentable. Still it cannot be denied that, architectural style, and the intense decorations of the temples mentioned above, are greatly affected by the art tendencies of the age and environment.

That the introduction of this foreign element into Japanese art has been beneficial to it, and through the lapse of years its salutary influence has not totally disappeared, cannot be denied. It is to this alien inspiration, as already stated, that Japan owes its greatest works of art and architecture: works which elevate the nation's art-

thought from an insignificant position, not unlike that occupied to-day by Corea or Siam, or even China, and place it on a level of comparison with Egypt or Rome ; or even with Greece. What would have been the real state of Japanese art if this potent force had not from the very beginning of its life permeated it in every department and branch ? We are unable to answer the question in a fully satisfactory manner but, I think, we should not be greatly led astray from the truth, if we asserted that, under no circumstances whatsoever would it have risen above the crudities of a Hokusai, or the insignificant trivialities of the *netsuke* carvers. It is this redeeming force alone which has saved once for all every branch of art in Japan from a ridicule-exciting juvenilism, and raised it into the transcendent realms of true art. In every direction to which we look its benignant powers are manifest, and its pregnant ideas and inspiring thoughts infuse rationality and life. It has always dominated the grandest and the healthiest art ideals of the nation. The best buildings of the land are conceived and brought up under its leadership ; the greatest statues—both of wood and bronze—of an unsoiled purism, and entirely free from the conventionalism of an external repetition, are raised through its guidance ; and immense, painted canvases of unsurpassable beauty and elegance, and aggroupment of ideas so unlike the Mongolian type of art, have been produced by its ever-living stimulus. Even to-day, after the lapse of many centuries, when taken as the sole pattern and model, we find its pristine vigour undiminished, and its old verve unabated. Consider, as a proof of this statement, the majestic new temples of the East Hongwanji sect at Kyoto, where the classic style is more predominant than the Shiba-Nikko form of architecture.

It is greatly to be regretted that nature has not blessed the geological strata of the Japanese Islands with that extremely valuable mineral called marble. If Japan possessed some mar-

ble quarries like those of Greece or Italy, which supplied ample materials for the objectification of the latent ideas of a Phidias or a Michael Angelo into their consummate efflorescence, I think it would not be rash presumption to aver that those builders and sculptors who from wood produced such stupendous edifices and gigantic monuments of immaculate purity and strength, from a more exalted and manageable material could have produced statues equal to those of the classic Greece or Rome, and buildings like the Parthenon or St. Peters'. In the absence of marble, the Japanese sculptor and architect have never been able to rise to that sublimity of harmonious massiveness, that grandeur of symmetrical unity, that is to be found in almost all marble producing countries. "Marble," says John Ruskin quite aptly, "is for the sculptor and architect what paper is for the artist." "Over the greater part of the surface of the world," he continues "we find that a rock has been providentially distributed, particularly pointing it out as intended for the service of man. It is exactly of the consistence which is best adapted for sculpture, that is to say, neither hard nor brittle, nor flaky nor splintery, but uniform, and delicately, yet not ignobly, soft,—exactly soft enough to allow the sculptor to work it without force, and trace on it the finest lines of finished form; and yet so hard as never to betray the touch, or moulder away beneath the steel; and so admirably crystalized, and of such permanent elements, that no rains dissolve it, no time changes it, no atmosphere decomposes it: once shaped it is shaped forever, unless subjected to actual violence or attrition. This rock then, is prepared by nature for the sculptor and architect, just as paper is prepared by the manufacturer for the artist, with as great, nay, with greater care, and more perfect adoption of the material to the requirements." In the absence of marble we can plainly see the Japanese workman vainly struggling to overcome the disadvantages, often growing into insuperable difficulties, imposed upon him by a capricious dis-

tribution of the bounties of Nature. This will become very clear if we closely examine any large wooden edifice of old Japan. Here frequently we meet that accumulation of the material into a burdensome superfluity, which the very weight of marble would have precluded, and so prevent the commission of the unworkableness, and repulsive obesity. Another defect, in fact the greatest one we notice in Japanese architecture, is, the impossibility of producing grand colonnading in the galleries and corridors of their great edifices, especially in the great Shinto Shrines like the Kasuga of Nara and Yamada Jinsha of Ise, where the artist, on account of the paucity of his materials fails to attain to the sublimity of magnitude of any of the great temples, or edifice of the Western civilization, as for example, the Parthenon, where majesty and simplicity have been most happily blended together. In some places the columns have been considerably thickened by the application of an extraneous covering, when the motive has not been to obtain stability, but proportionate symmetry and a pleasing perspective; and the result though very far from being perfect, is attended with a certain degree of satisfaction, especially when it is contrasted with its surroundings. This ingenious device has been repeatedly resorted to in those high Buddhist temples and other structures, where otherwise the procurement of a symmetrical thickness in any species of wood is impossible.

The extreme poverty of the different species of Japanese stone is so hopelessly irremediable, that nothing important in stone statuary, to our knowledge, has ever been attempted. The Japanese artist whose prodigality of industry and regardlessness of time in every minute detail of his work is phenomenal, appears to us to show the least of these characteristics in his stone statues and statuettes, so profusely scattered everywhere in the country. Indeed a very large majority of them, for their inartistic grotesqueness, and sometimes for their extraordinary hideousness,

would rival, or even surpass, the totems of the semi-civilized savages of Central America, and show little kinship to the works of a people whose laborious minuteness of technical skill, and exquisite finish, have recently surprised the whole civilized world.

We must here exclude from this severe criticism a solitary statue of Jizo, recumbent upon a lotus flower, in prominent relief, upon a huge rock, on the narrow pathway leading from Ashi-no-yu to Hakone. It is by far the best, and the largest, (being more than one *jo* high) stonework of real artistic merit we have seen in Japan. The sadness of that impenetrable eternal silence so common to Buddhist statues and portraits, is greatly relieved here by a calm and subdued smile which illuminates the countenance and enhances its worth as a valuable work of art. It is attributed, just like all the other great works of art in ancient Japan, to Kobo Daishi.

In painting, which has always stood at the head of Japanese art, and as concerning which Gonse has aptly said : "*l'histoire de la peinture est au Japon plus qu'ailleurs, l'histoire de l'art lui même,*" the existence of this powerful foreign inspiration is still more pre-eminently conspicuous ; and whenever the painter leaves its well defined canons and firmly-established outlines, he immediately goes astray, and with an unalterable fatalism rushes into the committal of that besetting sin of the entire native art of Japan : namely, a senseless diminutiveness, and an oppressive compression of every object into a cramped and convulsive posture, especially of the one which needs more expansion and freedom of movement than all the rest, viz the human body. As a clumsy massiveness, and an extravagant superimposition of the material were the besetting sins of the Assyrio-Egyptian artist, so an inexcusable diminutiveness has been that of Japanese art when not under the elevating influence of the old Aryan

inspiration which enacted such wonders in the classic art of Dai Nippon.

In all ages and countries the fine-arts and literature seem to have cultivated mutual friendship, nay, we should rather say, there is a hidden psychological kinship and close affinity between them. The case is not different in Japan. The poet sang :

“Yo no naka wo, shi shaku go sun ni, nari ni keri ;
Go shaku no karada wa oku tokoro nashi.”

(In this world no one should be taller than four shaku and five sun, for there is no sufficient space here for a five-shaku human body.) This was the exact position taken by the painter. A five-shaku human stature was neither fit for poetry nor for painting. Once however, emancipated of this self-imposed nightmare the Japanese painter is strong, natural and healthy. The student of Japanese painting will repeatedly notice that whenever a painter, even at the present day, has for his model,—whether an imaginary or a real model we will not at present consider—a figure representing an Aryan deity, or a Buddhist Arhat, nay more, even when the canonized saints of his own land are portrayed ; a natural extension of the limbs, a robust and well-developed trunk, a broad chest, an intelligent facial cast free from all suspicion of a flagitious design, or of innocent stupidity, a masterly adaptation of every individual point to the central idea, and an easy convergence of the diverse elements and actions into a harmonious unity, is the happy end. These all-important features are greatly attenuated and weakened, both in vigor and prominence, whenever the artist is under the Chinese sway, and he attempts to paint fictitious Chinese scenes, sages, manners, and modes of thought and living. But the lowest depth is reached when the artist comes to illustrate the movements and actions of those who are nearest to himself, namely, of his own compatriots. The whole domain of the native art of Japan shows, almost to demonstration, that oftentimes

an ideal—as opposed to the real—model will lead the artist to a higher and vaster sphere of symbolic beauty than common and prosaic everyday reality.

We shall not, however, overlook or ignore the approach to a precious truthfulness of outline and facial features which the *Ukiyo-ye* masters made independently. They almost succeeded in producing genuine art-types by faithfully sketching and minutely illustrating the doings of a class of their countrymen; or rather their countrywomen. Their failure to reach a higher standard of art may be attributed to the self-limitation which they needlessly imposed upon themselves, by confining their fruitful labors to the portrayal of a single class with an undesirable minuteness, while ignoring the very existence of all the others. By cultivating this spirit of sectional exclusiveness they fore-ordained for their school the fate of a lifeless conventionalism which seems to be the inevitable end of all schools of painting—I rather should say of everything human. Notwithstanding this dead formalism, considerable progress towards an allowable, and even recommendable, realism was made by the academies of the Toriis, and the Utamaros; and the daily visual presentation of an object painted with servile regularity, led them gradually towards its formal anatomical study. But this empiricism was not sufficiently strong to liberate them from the prefixed iron rules of a petrified traditionalism. However, it was they, that is, these *Ukiyo-ye* Masters, who opened the road that would have led to a final emancipation, if only the *Shijo* Artists had made an unrestricted application of the leading canons and principles of their healthy naturalism, to the human body as they, so wisely, did to their animal and scenic creations. If Mori Sosen had studied his men with the same painstaking perseverance and assiduity with which he studied the anatomy and habits of his monkeys, he would have inaugurated a new era in the world of painting in Japan; but as it is, as far as the painting of man is

concerned, the Shijo school has perpetually undulated between the *Ukiyo-ye* and *Tosa* schools.

The causes leading to this gradual enfeeblement of the alien influence which from the very beginning had produced such beneficial effects in the whole field of Japanese art are multiform and greatly complicated. To elucidate the subject thoroughly, and trace every effect to its original cause, and delineate all their successive operations, would require a long treatise on the whole history of the fine-arts in these Islands. Still, we hope that before we conclude, some not inconsiderable light, to illuminate the obscure spots, may appear.

That the intellect and thought of the Aryan race at their early introduction into Japan quickened the innate aesthetic tastes of the people, and gave a great impetus to the progress of art and culture, we have extensive evidence in every direction into which we look. But it should be stated explicitly, that those influences brought to Japan from foreign countries did not create *ex nihilo*, in the soul of its inhabitants, that noble predisposition to love every thing beautiful in the dispensation of nature, with an intensity which has no parallel in the ethnological history of our race. To create an art-loving nation like the present-day Japanese there are other indispensable prerequisites beside a powerful preceptor. At the background of the mental powers of the student race there must exist an instinctive faculty for grasping the truthful, and an inherent love and affection for everything beautiful. Combined with these mental forces there must be an external, a physical aptitude and capacity for objectifying every internal impression which the floating phenomena incessantly imprint upon the mind. Japanese seem to me, to be richly endowed with the latter two requirements, but lacking considerably the first one—the grasp of the the truthful in art.

That the external phenomena produce potent impressions upon our mental retina, no one will dispute. But

where the receptive understanding of a nation is blunted, like that of the modern Greeks ; or is originally non-existent, as that of the Ainos, the most sublime exterior representations will be either unheeded, as is the case with the latter ; or the " cares of this world, and deceitfulness of riches choke the logos and it becomes unfruitful," as it is with the former. The philosophical psychology of the fine-arts like every other sane and rational psychology, does neither immure itself into the frigid pan-materialism of David Hume, nor is blindly enamoured of the hazy pan-idealism of Bishop Berkeley ; but is the psychology of that sensible and vigorous dualism, where matter and mind harmoniously reside together and with mutual assistance produce every grand object in the visible universe.

We have touched the point here in order to give a glimpse of the conclusions which may be anticipated in this essay in reference to the mental characteristics of the Japanese, and their originality in creating such an immense multitude of art types ; and finally, the outcome which may be expected of that syncretism of tastes, which is inevitable in the future Japan.

CHAPTER III.

THE INFLUENCE OF BUDDHISM UPON JAPANESE ART.

The most conspicuous factor which has worked out and successfully accomplished the happy results delineated in the preceeding pages, is the great religion, in fact, the only great religion which the religious instinct of the Aryan race has evolved, namely, Buddhism ; and when we speak of Buddhism in Japan in a single word we express all that which is noble, grand and sublime in Japanese art and architecture ; for Buddhism, in these Islands, since its very inception, has been almost identical with the fine-arts. It has been the sole parent of those exalted art productions with which the reader must have formed some acquaintance.

Wherever and whenever its magic wand has graciously touched, it has inspired an unquenchable yearning after all that is elevated and immortal in the infinite world of art. It was Buddhism which impregnated the soul of the ancient artist with manifold ideas and thoughts whose unchecked fruition we see everywhere around us.

But if the introduction of Buddhism was the primal cause of awakening the dormant aesthetic activities of the Japanese artist; on the other hand, we see, he also on his part has radically transformed the genius of this religion from that of pessimism and despair, into a religion of mirth, and of a humour almost verging on the burlesque. Indeed, the Buddhism of Japan always has been the religion of the artist more than that of the priest; that is to say, influence of the artist has been more predominant in its daily life than that of the priest. That fundamental doctrine, and final consummation of the creed of Shakya Mooni :

“Many a house of life

Hath held me—seeking ever him who wrought

These prisons of the senses, sorrow-fraught.

Sore was my ceaseless strife ! But now,

Thou builder of this Tabernacle, Thou,

I know thee, never shalt thou build again these walls of
pain !”

has destroyed very few tabernacle walls in Japan. A religious creed which goes to such an insane extremity of pessimism leading to actual self-annihilation could never have found a single soul ready for its acceptance amongst these light-hearted, nature-worshipping, life-loving and ever-active Japanese. Indeed, I seriously doubt if from the very beginning of the introduction of Buddhism in these Islands the inhabitants have fairly understood the genius of its austere institutions, and the subtleties of its metaphysics; or if Buddhism on its part, has materially affected the religious susceptibilities of the Japanese race. No one who reads the Manyōshū will fail to perceive the strong aspirations

and religious sentiments which the race possessed in its early childhood. Hence we can readily imagine that the advent of the new religion with its noble ethical codes, and very profound abstract doctrines, must have, perforce, greatly purified the moral and spiritual sensibilities of the unsophisticated people just brought within the domain of its metaphysical leaven. Almost always doctrines and teachings of a recondite nature conveyed from a philosophical nation to one not given extensively to abstract speculation, impress themselves deeper into the recipients' understanding than is the case with the intellectual reciprocity and commerce of ideas of two nations possessing the same mental inclinations and proclivities. Undoubtedly the advent of Buddhism into Japan ameliorated the moral status of the people, in a larger ratio than it did that of China, who had already codified such excellent ethical precepts; and whose people are more original and philosophic than their eastern neighbours. But beside that keen instinct for the perception of the primal moral law which is the universal heirloom of mankind, each religious cult has some distinctive original features distinct from its genius, which constitute its soul and essence, and without thorough fulfilment of those specific functions no religious organization is destined to enjoy a very prolonged tenure of existence. The essence of Christianity, for example, is not the "Sermon on the Mount," although it is inseparably connected with its whole internal system, and its alienation or disruption might be attended by grave consequences threatening its very existence as a vital and useful organism. But it is that latent force, like an invisible potentiality pervading everywhere and moving everything; and imparting life and animation to the lifeless mechanism of the whole system; and even suffusing activity into moral law when its operations from some unknown causes are kept in abeyance. It is this "essence," this "potentiality" of the religion of Buddha which in our opinion, has not material-

ly affected or changed the spiritual forces working in the inhabitants of Japan, though its advent was in an auspicious moment when the national character was in the infancy of its formation. Buddhism has never succeeded in eradicating even such a feeble and lifeless religious plant as Shintoism. In fact ever since its final victory, it has never become the supreme and unchallengeable religious force of the land. It has never been able to dominate completely those hidden springs of thought and action, as Mohammedanism for example, has in the lands of Islam; or Christianity in Christendom. It is surprising, yet it is true, that Shintoism, greatly strengthened by Confucianism, for the last two centuries has exercised a greater influence upon the nations' thought and intellect, than the metaphysical religion of India.

The causes bringing about such unexpected and unlooked-for results are many: the transcendent beauty of the landscape, the radical difference of the psychological constitution of the Japanese race, the climatic amenities, and a few other factors which we shall see later on. All have conspired so to speak, to nullify the severity of the demands of Buddhism, and to mitigate the intensity of its sorrows to such an extent, that it has been metamorphosed into a new shape in consonance with the religious consciousness of the people, and seems rather like Hellenic polytheism, than Brahmanic pantheism developed into pessimistic nihilism.

That Buddhism was the final outcome, through a logical procedure, of the enfeebled Brahmanic pantheism, as contradistinguished from the Vedic polytheism, whose underlying principle was an active and ever-struggling dualism, which we find carried out into its ultimate possibilities in the later rigid Parseeism, becomes particularly clear when we carefully examine the endless morphological catena of the changes through which the Aryan race resident in India has passed during the many centuries of its eventful existence in the great Peninsula.

Outside India—the birthplace of the philosophy of the Vedanta, and the Upanishads—Buddhism would have been an absolute impossibility. Centuries before the appearance of Prince Sidharta, and long before his mystic followers had propounded their abyssmal metaphysical theories the destiny of the Hindoo mind had been shaping itself towards a pancosmic monism. However, it was left to the profound genius of Buddha to engraft upon this most hideous of all metaphysical ontologies the alleviating consolation of his sociological beatitudes, thereby saving it from its injurious speculative tendencies. It was the abolition of the caste system, and the proclamation of a universal brotherhood of mankind which enabled the incipient propaganda to inaugurate a new era in the religious consciousness of humanity. Evidently it was this all-wise policy which persuaded the infant religious organization to emancipate herself from the caste dungeon within whose walls the conscience of India had been imprisoned for ages, and to over-leap the geographical boundaries of Brahminism and become one of the greatest future religions of the world, and not its abstruse dogmatic vagaries. What would have been the ultimate destiny of Buddhism as a religious force in human Society without these mollifying sociological accessions upon the cold and lifeless mummy of Hindooism, we have no means at present to find out; in all probability it would have not risen above any of those schismatic sects for which the ecclesiastical history of India has been notorious since its colonization by the skeptically inclined Aryan.

That the climate of India with its insidious influences, and debilitating effect, has been one of the principal causes, if not the sole cause, for degenerating gradually the descendants of that robust and warlike Aryan of the Vedic period, to the weak-bodied, obsequious and indolent Hindoo of the present day, there is very little place left for doubt. With the retrogression of his physical energy

and natural vigour, his religious sentiments also would deteriorate from an aggressive and combatant polytheism, into a quiescent and passive mysticism. Otherwise to what shall we ascribe the causal motive of the suicidal song of Buddhism just quoted from the "Light of Asia," when we remember that it was plaintively uttered by one whose sturdy ancestors in the Rig-Veda had jubilantly sung :

"Grant me, O Indra, the highest, best of treasures.

A judging mind, prosperity abiding.

Riches abundant, lasting health of body.

The agree of eloquence, and days propitious ! "

In Japan, however, where a melancholic temperament and mystical speculations are unsuitable, nay, oftentimes quite injurious to the continuation and development of the species, we find a considerably altered Buddhism. We see it here the severity of its injunctions tempered, the poignancy of its sorrows blunted, the acerbity of its anguish abated, and the despondency of its dismal finality, to a great extent, mitigated, if not totally obliterated, by the national good sense and ever-buoyant humour. The religion primarily intended to be the very incarnation of everything sorrowful and agonizing, by its endless gay feasts and interminable jovial festivals, has been converted into a perpetual carnival of innocent pastime.

How much of this transformation was primarily due to the process of forcibly amalgamating an Aryan religion which had been in actual operation for more than a millennium, and consequently, had greatly expended, if not totally exhausted, its pristine vitality and strength, with Shintoism and ancient Chinese rudimentary religious ideas as collected into a unique whole by the all-powerful genius of Confucius, cannot at present be satisfactorily determined. Evidently from the very beginning of its promulgation the new creed met a multitude of opposing forces with which it had to engage in a mortal struggle; and despite its final triumph, they have not only greatly modified its

exoteric appearance, but also its esoteric spirit and life. The hero-worship which before the appearance of Buddhism had developed under the Chinese influence into a strong cultus of the Emperor worship, and had taken a powerful hold upon the nation's feelings of filial piety, and sentiments of loyalty, must have been one of the most potent of its many opponents, militating against a religion whose primal aim was the total effacement of all class distinction, and the utter negation of all superhuman personality. In the early Buddhist paintings, in his visits to the Buddhist Sanctuary, the emperor in his royal robes, and a large military retinue, is represented as the head and supreme controlling power of the service. Such a spectacle, to a pious and devout Buddhist, who knew the story of the Prince Sidharta's flight by night from his palace, and the renunciation of all his royal prerogatives and possessions, must have brought very conflicting emotions. With such primary causes there must have been leagued a multitude of others, not only hindering its advancement, but also modifying its general constitution.

We have already alluded to the humorous disposition of the Japanese nature, and such a tendency might easily affect the religious life of a nation. We are acquainted with very few nations in the world who possess such a wealth of natural talent for the grasp of everything comical in human actions, and its expression in the most happy manner conceivable. The Japanese comic painter of the pre-Restoration period stands far above his brother-artist of the West in that delicacy of touch and verve without which no life can be infused into a comic representation. From the time of Toba Sojo down to the universal genius of Hokusai, very few things springing out of that exhaustless fountain, termed "human folly," have escaped the grasp of their agile genius, and the illustration of their facile brush, so much so that they have extended this side of their pictorial—to a certain extent even their glyptic art—into

the world of their gods also. Nothing except an ultra-comical sensibility alone could have created those utterly un-Buddhistic Seven-Gods-of-Fortune (Shehi-Fuku-Jin); Daikoku with his facetous looks and big bags of rice, the contented Ebisu and his tremendous *tai*, the big-bellied Hotei and his idiotic laughter, and so on with all the rest. Even Kwannon Sama, the goddess of mercy who often is charmingly painted, especially when riding upon a fierce dragon, and with a supernatural courage and intrepidity cleaving through boistrous waves; and who has inspired the Japanese painter almost as much as the Madonna did the Italian painter of the renaissance era, is no exception. We often see her disfigured by an almost wanton laughter upon her stupid countenance. However, I must observe here that this is the case with her wooden statues rather than her painted forms or ivory statuettes.

These unconscious caricatural productions representing diverse aspects and manifestations of the great unknown and incomprehensible power in the universe, are radically different from, nay, they are absolutely opposed, to the inward spirit and nature of the Buddhist religion. Whatever short-comings or weaknesses, original or accrued, Buddhism might have had during the long ages of its history, it has never lacked the spirit of seriousness or reverence; therefore we hasten to state that this vein of humor and levity in the Japanese ecclesiastical art is totally alien to its nature, is the very subversion of its whole fabric. Its existence is posterior to that primitive activity when the strength and vigour of Buddhism were in the prime of their life; and when its ecclesiastical art was governed solely by that foreign inspiration which worked such astounding miracles in the art history of Japan. We do not find any trace of this insane debasement of art till the Tokugawa era, when all foreign intercourse was almost forbidden; and we arrive at the beginning of the birth of a new art more in conformity with the

æsthetic understanding and tastes of the nation. None of the comical pictures attributed to Toba Sojo, the father of the comic design in Japan, and himself a Buddhist priest, betray any religious character. In all probability the first attempt to introduce a humorous element into the sacred art, was made by that heresiarch of Japanese painting—Hanabusa Itcho; a man of extreme negative tendencies, and of skeptical predilections in all religious matters, and possessing neither a chaste nor a refined order of imagination. Before leaving the Kano academy he used to draw pictures of Buddhist sages and saints and living personalities in a manner so far from all conventionality and decorum, that he constantly offended his brother-artist's religious feelings. (It should be remarked here, that the Kanos have always been very devout and ardent Buddhists). After repeated punishments had failed to cure the wayward student, he was expelled from the school. With the severance of his relations and establishment of independent work, free from all the restraints which the old associations and environments entail upon a man, Itcho's heretical tastes appear to have grown daily more self-assertive and aggressive. Almost all of Itcho's comical paintings extant belong to the period of his defection from the Kano academy. This is the beginning of the decline of art of Japan: the disappearance of the sculptor and the advent of the *Netsuke* carver.

That the love of a sensuous art has always been the most noteworthy characteristic and motive force of Japanese Buddhism since its nativity, will be readily conceded. Indeed this single feature for centuries has been developed into such an over-fed organism, that it has become the direct cause of weakening and stunting the other factors always found operating in the religious life of a great and civilised nation. In contrast with the Buddhist art, Buddhist literature, for instance, hardly can be said even to exist. A few popular sermons, mainly

on religious toleration, like the *Dōwas*, attributed to a Buddhist priest, and intended to bring about understanding and reconciliation between the three religions of the country—Buddhism, Confucianism and Shintoism—could hardly be termed “Buddhist literature”; in fact the moral sentiment pervading those useful homilies is, like the moral substratum underlying the whole Japanese literature, Confucian rather than Buddhist. So extraordinary a state of affairs—a surfeit of art with a destitution of literature amounting to famine—is hardly ever witnessed in the entire religious history of the Western nations. Even during the great art-age of Italy, its Christian literature had not been enfeebled, on the contrary it flourished side by side with its art; indeed sometimes both grew to perfection in the same personage, as for instance, in the great Michael Angelo. This condition of things, in all probability, was originally caused by the difficulty of understanding Buddhist canonical books in the Chinese characters, on the part of a people not accustomed as yet to a written language. The Buddhist Sutras, it should be mentioned here, have never been rendered into the colloquial language of Japan, they are still retained in their old Chinese translation, which though intelligible to a very insignificant number of the Chinese scholars in Japan, is not understood by the populace. The analogy of the Latin being the religious language of the Roman Catholicism to-day, does not exactly correspond with the present case; because in the early ages of the promulgation of Christianity in Europe, Latin was still the spoken language of many countries and races; while the pure Chinese characters and their order of regulation has never had a large circle initiated into its mysteries in Japan. In such a case, undoubtedly, the mimetic arts would have conveyed to the very receptive mentality of the Japanese worshipper, the intricate and recondite dogmas and tenets of the new creed with greater facility than

the Chinese hieroglyphics. This theory becomes vested with considerable plausibility, when we find a large number of the early Buddhist priests were eminent artists, and some of them attained to great celebrity for the excellence of their painting.

This ascendancy of art over all other branches of religious activity once permanently established, its continuation could easily have been maintained as long as the principal doctrines of the new religion were vividly brought before the worshipper's visual perception, and were not adapted to the language of the people. Hence it is astonishing to find this art supremacy continued, in an unbroken line, from the time of Shotoku Taishi to the abolition of the Bakufu and the commencement of a new epoch in the life of the nation.

This consecutiveness of the unchallenged art domination in the whole history of Japanese Buddhism, as a matter of course, has greatly strengthened the influence of the artist, and greatly diminished that of the priest. In the quaint old Japanese tales the Bozu, with his shaven skull and projecting stomach, is the constant butt of ridicule and opprobrium, nay, often, of actual hatred :—

“ Bozu ga niku kereba,
Kesa made nikui.”

(When hating a bozu, hate even his stole), is a well-known popular saying. One more then we will let the bozu alone. You all, I suppose, have many times heard the street urchins shouting :

“ Bozu wo buttara yama no imo ;
Yama kara ochitara Satsuma imo.”

(Beat a bozu and he will turn into a yama no imo—*dioscora Japonica*—and when he rolls down the hill, he will be converted to a sweet potato). Poor bozu ! in Japan

he has very little "praise, out of the mouth of babes and sucklings." The artist, on the other hand, is always respected and revered.

Plato somewhere in his Republic has said, too much music softens and spoils the soul, and too much gymnastic exercise hardens and spoils the body. The sage would not have been wrong if he had added, too much art will spoil a religion. It is not against music or gymnastics in general that Plato is contending with his unrivalled dialectical skill, but against their unrestricted excessiveness, because this is calculated to produce undesirable effects upon the dual nature of man. The case is not different nor the consequences dissimilar with the relation of art to religion, not only in Japan but everywhere.

This over-preponderance of the strength of the artist over that of the priest and author, has emboldened his unbridled imagination to over-step the boundaries of propriety. As we have already seen in the Seven-Gods-of-Fortune, especially when represented by the facile pen of Hokusai, who in this line of burlesque art had quite distanced Itho both in originality and fecundity. Hokusai's comical representations of the gods served as models to almost all his contemporary *netsuke* carvers, and it has continued almost to the present day.

In the early pagan polytheism also as seen in Greece, this lively propensity of over-indulgence in the humorous, or rather, frivolous, and its reprehensible applications to matters pertaining to the sacred domain of religion and supernaturalism, would have reached a disgraceful climax through the unchecked activity of its artists guided by the erratic imagination of its poets, if it had not been for the healthy criticism, and restrictive strictures of its philosopher critics; men like Plato, Aristotle and many others by dint of convincing argumentation, so to speak, prevented the Greek nation from allowing the most sacred of its objects of worship to be desecrated by vesting them

in a buffoon's habiliments. Plato in his great masterpiece, not only severely censures Homer, for ascribing to the gods a lack of impartiality in distributing their favours to the mortals, but he would also have expunged out of that immortal epic the lines depicting the gods as indulging in innocent laughter :

"Inexhaustable laughter arose amongst the blessed gods when they saw Hephoratus bustling about the mansion."

What would Plato have thought if he had seen a picture of the Shchi-fuku-Jin in the Hokusai Mangwa !

Aristotle, who was in everything more practical than his mystic master, and discussed any subject from a more concrete stand-point than Plato, has made some very judicious and wholesome remarks on the mission and province of art in general. He would not allow any artist to produce that which is physically deformed in man ; and severely condemns the painter Plauson for devoting his talents to the production of works which are not calculated to promote happiness, or please the visual sense of the beholder. Consequently all the different gods and semi-divine beings in the Japanese pantheon who are depicted in an unnatural posture, or indecorous attitude, or ludicrous position would have fallen under Aristotle's ban even if we leave out of consideration the divine nature of their sacred personality, which ought to have entitled them to a certain degree of respect at the hand of the artist.

Not only by their direct and sober criticism upon religion or art must such thinkers have progressively strengthened the moral consciousness of their countryman, by rectifying their mistakes and guiding them towards a rational contemplation of all essential matters pertaining to the domain of the supernatural ; but also incidentally in the whole vast range of their writings a similar salutary effect must have been extensively exercised. A people who had ready access to such theological produc-

tions as Plato's doctrine of Ideas, and Aristotle's incomparable *Metaphysics*, must be considered as having forever left behind that stage of religious evolution commonly termed "pagan polytheism." We utterly refuse to classify a philosophic nation long under the beneficial domination of such exalted theological conceptions in the same category with the rest of heathendom; even though the pagan art of Greece was still securely protected by a thick atmosphere of sacerdotal traditionalism.

A similar state of things is met in the world of religion and art in the Roman empire. Rome after the crystallization of its corporate existence into a unique solidarity, and its coming into contact with a far superior culture and civilization in the Hellenic Islands, struggled to reproduce Greece as faithfully as radical differences of temper and intellect would allow. "If we endeavoured," says the great historian of Rome, "to obtain historical results from these archives of tradition and practice of primitive art, it is in the first place manifest that Italian art like the Italian measures, and Italian writing, developed itself not under Phœnician, but exclusively under the Hellenic influence. There is not a single one of the aspects of Italian art which has not found its definite model in the art of ancient Greece." (Momsen's *Rome* Vol. 1, page 311). I think we are warranted in the supposition that the admonitions of the critic-philosophers of Greece would have exercised the same degree of salutary restriction upon the Roman fancy when Greek art and literature were imported into Rome, as it had exercised upon their own compatriots. The Roman was less richly endowed with that vivacious imagination and lively fancy, which were the inborn gifts of every Greek; and which were constantly running away with his common sense and philosophic insight. "What children ye are, O you Greeks!" exclaims an astounded Egyptian priest visiting Hellas. But the prosaic and extremely utilitarian Roman was not greatly given to the

undertaking of making fruitless voyages into the unknown realms of infinity. This point becomes quite perspicuous when we minutely compare together the literary productions of these two historic nations. Let us, for instance, contrast Virgil's *Æneid* with Homer's *Iliad*. We find that whenever opportunity has offered itself the Greek bard has lost no time in quitting these terrestrial regions and soaring unmolestedly in the eternal realms, to converse with the immortals in a naïve familiarity that is almost shocking to our nineteenth century religious sensibilities; while the Roman poet even when he has put his scene in the celestial sphere, is anxious to come down as soon as possible; we also who have accompanied him feel very uneasy and hasten to hurry back. And Virgil, it should be observed, is considered, we presume, with justice, the most Greek of all Roman poets. "The realistic form of the Roman mind," says a recent writer, "could not appreciate imaginary beauty, and therefore Roman poets and Roman artists contented themselves with exact representations of the actual facts and figures of human life, and we find the Roman connoisseurs criticising Polyclethus for clothing his statues in superhuman beauty." The prevention of such a realistic cast of mind from making hazardous excursions into the regions of the supernatural could not have been a very difficult task. Besides the imported writings of the Greek philosophers, the restrictive influences of their own eclectic writers, men like Cicero and Seneca, and the great host of satirical authors and poets, for which the Roman nation displayed such appetite, would have proved more than enough to check popular enthusiasm whenever it over-boiled itself after multiplying of feigned superhuman beings in sacred art. The opposite inherent and innate tendencies of these two great nations of antiquity, both in literature and the fine-arts, are lucidly illustrated by the fact that while the Greek strove to make his human heroes as ideal and divine as his gods, the

Roman attempted to make and represent his gods as human and prosaic as his emperors.

In Japan although from the very beginning of its authentic and reliable history till very recently, art and religion have been most intimately allied together, neither of them has had the benefit of an independent, directive sober criticism, from great intellects like those which ruled Greek and Roman thought and conscience throughout their history. It is this total absence of such great thinkers and the standards and ideas for which they were contending, from the arena of Japanese art and religion, which is responsible for the lamentable fact that neither the former has attained to a commendable altitude in the choice of its types and models, nor the latter to the logical evolution of its doctrines.

We have before alluded to the presumable good effect which the theologico-philosophical writings of such sages as Plato and Aristotle must have produced upon Greek mind and thought. For the sake of illustration let us consider the latter's definition of the nature and attributes of the Deity. "The Deity," says the great author of empiricism, "is a being that is everlasting, and possesses the highest good in nature, so that with the Deity life and duration are uninterrupted and eternal; for this constitutes the very essence of God." In contrast with this sublime speculation upon the essence of God, Matowori's, or Hirata's definitions, that everything in the dispensation of the visible Cosmos possessing a special—or literally translated "terror-striking" (Kashikoshi)—peculiarity, from the sun to a star, a meteor, a king, a dog, an ox, a tiger, a whale, an oak, a reed, a marsh, in fact everything, with the exception of that which we are taught is the image of God, is god, it sounds more like the metaphysical drollery of a buffoon, than the dialectical reasoning of a serious philosopher. Is it any wonder, then, that the Japanese artist, after getting such an idea of the nature of his gods from

his great theologians, considered these heavenly and earthly creatures as adequate objects for the display of his wit and humour?

All the leading writers on theological or religious matters during the Tokugawa era were Shintoists; the paucity, or rather absolute absence of Buddhist writers of any importance is most striking, nay, we should say, most appalling. It stands as another corroborative evidence that Buddhism as a religious factor has completely failed to remould according to its own standards and ideals, the spiritual, moral and intellectual forces of a remarkable nation. Such a severe criticism cannot be applied to either Shintoism or Confucianism, especially the latter, which for centuries has been the direct inspirer of all that is noble in the extensive field of Japanese literature, although it has occupied a secondary place to the religion of India.

This lack of all sound guidance and admonition of the national conscience on matters pertaining to the sphere of religion, is almost equalled by the absence of all healthy criticism in the world of art. Books on painting like the old Honcho Gwashi, or the new and excellent Gwako Nimmei Shōden, and in fact books written on all other branches of art, are nothing more than a few lines of anecdotal biography, that also mostly apocryphal. Japan has not yet produced a Pansanias, or a Vasari, nor a John Ruskin. Hence the non-existence of a national criterion, or rather, I should term it, conscience, to adjudge the different kinds not only of religious art, but of art of any kind. Perhaps, it is the supreme position occupied always by the artist in the people's estimation, that has given him immunity from being subjected to the unpleasant ordeal of public opinion.

At the unexpected genesis of the Ukiyo-ye School, it is true that we find a national taste crystallizing itself, perhaps for the first time, in the history of art in Japan,

into a sort of universal tribunal which with uncompromising rigidity and unprecedented consistency, proscribed indiscriminately all and every production of the school which was more native in its spirit, and congenial in its motives than all its predecessors. But what were the imperative reasons, let us ask, for passing such an inflexible judgment of condemnation, and cruel sentence of banishment upon this new school and its æsthetic propaganda? Was it because the class of society—the Ukiyo—to the illustration of whose actions and life it devoted its prolific genius was immoral? No! This is quite evident from the very fact that, centuries before the appearance of Iwasa Matabei pictures of a revolting obscenity were freely produced. Nor did this emanate from the censures of a leading thinker like Aristotle, evoking a ready acceptance from the moral convictions of the race. It was the logical issue of that over-weening and arrogant aristocracy, which assumed such unbearable proportions under the iron rule of the Tokugawas, and which finally became the principal cause of its own downfall and destruction. That this narrow and ignorant spirit of exclusion was at the very bottom of this biased judgment is quite clear from the very fact that, while this national tribunal with a relentless fury ostracized the paintings representing with a childish innocence and naïveté the unfortunate, and let me add also, the immoral *demi-monde* of their own country, it bestowed its unstinted praise, if the pictures, though of the same character, pretended to be from Chinese scenes. Even the Kano painters, whose academy was officially recognized by the Tokugawas, and always patronized by them, while looking with disdainful contempt upon the followers of the Toriis, the Utamaros, and Itcho, did not demur at exercising their supple brushes and remarkable talents in producing imaginary Chinese representations of a questionable moral nature, not dissimilar to those from the brushes of their rivals which they always so vehemently assailed.

From the above remarks on certain phases of Japanese art, and national sentiment, or rather, absence of sentiment, concerning them, no inference to unfavourably implicate the moral substratum of the nation should be deduced. Literature and art may frequently present reprehensible aspects, as is the case now in Europe and America; aspects which no student could overlook, and no critic ignore, which, however, do not, to any extent, represent the moral foundation upon which the fabric of character of those nations is built.

If the title of this chapter—the influence of Buddhism upon Japanese art—were reversed, and made to read, “the influence of Japanese art upon Buddhism,” would perhaps have expressed its sense and real purport, far better. However, our primary object has been to show the influence exerted by this alien element introduced into Japan at the very beginning of its consolidated national life, and the reflex action of the peculiarities of Japanese mental constitution upon this ultra-pessimistic and speculative religion of the Aryan race. To what extent this abstruse and intricate problem has been illuminated, each one must judge for himself.

NASU NO YUMOTO.

AN OLD JAPANESE INN.

BY REV. ARTHUR LLOYD.

[*Read Dec. 9th, 1896.*]

Last summer, in the early part of September,—a week well-remembered by many of our foreign community, who happened to be sojourning amongst the mountains and could not get home,—I had the fortune, (shall I call it good or bad ?) to be imprisoned for six days in the Komatsuya Hotel, Nasu no Yumoto, by ceaseless torrents of rain which effectually cut off all communication with the outer world. A $4\frac{1}{2}$ mat-room, with leaking windows was our sole haven of refuge from the storms without, and from our four hundred fellow-sojourners within, our crowded hostelry; the hot bath, our solace and joy, ran cold, and, after a while ceased to flow at all, as the pipes above the village were disordered by the swollen mountain torrents; the food was but indifferent, the beds hard, as there were not *futons* enough to go round among all these storm-bound guests; we had very few books, (two penny abridged novels and a school book); few cigars, no cards; yet I rarely have had such a thoroughly enjoyable week. Such was the effect of having one good companion, an

attentive host like the landlord of the Komatsuya, who did his best under most trying circumstances, and, if I may be allowed a word of self-praise, a fairly equable temper.

It was during our stay that I conceived the idea of writing an account of the village of Nasu in general and of the Komatsuya hotel in particular; for the hotel is as old as the village and is intimately bound up with its history; and having been for several centuries in the same family, is full of many interesting reminiscences.

To reach the village of Nasu-no-Yumoto the traveller alights at Kuroiso, five stations north of Utsunomiya, on the Sendai line, and, after crossing the Nakagawa by a handsome iron bridge, strikes westward over a park-like country, of glades and lawns, towards the smoking volcano which he sees straight in front of him. The road is not good; *jirikisha* can be had, but are not to be recommended; packhorses are in abundance, and cheap; but the ideal thing is to walk, for the air is generally clear and bracing, and the elastic turf makes walking a pleasure.

The distance from Kuroiso to Nasu is 4 *ri* 12 *chō*; by going to the next station, Toyohara, the distance is shortened to 4 *ri*, the character of the walk remaining much the same. As we approach Yumoto the panorama is very extensive: as we stop to take breath we can see to the north the white walls of Shirakawa and its castle, with the Abugawa winding on amidst the hills almost to Fukushima; to the East, the long range of the Iwaki hills which shut out the sea from our eyes. Southward the eye travels over the plains of Shimotsuke and Musashi to Tsukuba, and, on clear days, to Hakone and Fuji, whilst behind us to the west are the numberless peaks of the Shiobara and Aidzu mountains.

The village of Yumoto consists of one short street, with a row of bath-houses down its middle. Most of the houses are hotels or their dependencies, the Komatsuya hotel alone occupying three houses. Most of the hotels have

their own private baths, and there is a bathing establishment in the ravine above the village which is much frequented. A couple of *chō* above the village is a Shintō Shrine dedicated to Onsenjinja, the patron-God of the hot spring.

The Spring of Yumoto is said to have been discovered by a fortunate accident, more than twelve centuries ago, in the reign of Jōmei Tennō, the 34th Emperor. A large deer, it is said, had for a long time dwelt on the mountain, descending from time to time to commit depredations on the cultivated fields in the plain below. It had been pursued several times by the farmers, but in vain, till at length the governor, Kano Saburo Hiroyuki, set himself to work to track it to its lair. He accordingly followed it up the mountain and succeeded in getting one or two arrow-shots at it, which he knew had taken effect from the drops of blood which he saw along its track. Each time, the stag disappeared in the thick forest which covered one of the glens on the mountain-side, and each time, to his surprise, it emerged in a few days from the glen, apparently uninjured. He then determined to explore the glen, and there found the hot spring, whose medicinal properties had been so beneficial to the wounded stag. The spring is still called Shika no Yu, the stag's spring, and it is from this spring that the baths of Yumoto are partly supplied. The Komatsuya hotel claims to have been founded about this time, and to have remained continuously in the same family.

The history of the village has been singularly uneventful when we consider its propinquity to a volcano in continual activity. The volcano, however, (the summit of which is given in the Japanese guide books as 6,000 feet above the sea, the village of Yumoto being 3,500), is said to have first broken out in the 4th year of Oei (1398), and after that not to have become active again until the 3rd year of Kōkwa (A. D. 1846), and since then seems

to have been an extremely orderly volcano. I could find no record of an eruption until the 14th year of Meiji, and that eruption seems to have done very little damage. Perhaps this may be due to the fact that besides the two craters, the mountain is provided with a big blow-hole known as the *Funkazan no ana*, discharging itself on the other side of the mountains at a safe distance from all human habitation.

But in the 5th year of Ansei (1858) there was a long and continuous downpour of rain, which caused the river running along the gully to overflow; and the action of the water producing a landslip, the greater part of the village, which then stood much higher up the gully, was washed away. It was afterwards rebuilt on its present site, which is called the Shin Yashiki, or New Settlement, to distinguish it from the Furuyashiki, or Old Settlement, the traces of which are still to be seen.

The next event in the history of the village was a battle, fought on the 23rd August, 1868 (the first year of Meiji). Nasu forms the boundary between Shimotsuke and Aidzu, and the roads into Aidzu lead right across the mountain. I say the roads, for there are two ways. You may come up across the plain of Nasu no hara, and cross the Nakagawa at the village of Momuro, just where the Nakagawa issues into the open plain from the narrow defile between Mōmuroyama and Nasu San; and from thence, over some very rough country, to Sandogoya and so into Aidzu. Or you may choose the shorter and more direct road through the village of Yumoto, over the summit of the mountain and down to Sandogoya. This is the common route now, but the road has only recently been made. In those days there was nothing but a narrow path.

The main body of the Aidzu troops, remaining loyal to the Tokugawa cause, made a stand on the heights between Momuro and Sandogoya; the Royalist forces came

by both routes, one portion marching directly against the Aidzu men, whilst the others hurried on over the mountain to intercept their retreat. The people of Nasu no Yumoto, who were of the Tokugawa party, had sent their valuables for safety across the mountains into Aidzu; and they themselves fled to the woods on the approach of the Royalist forces. When the fighting was over and the people returned to their village they found they had met with a double misfortune. One detachment of the Royalist troops had seized and plundered their property, before it got into Aidzu: the other had burned their deserted homes.

On the 28th October, 17th of Meiji, the whole village was burned to the ground, a calamity from which it did not wholly recover for three years. Since that time it has had uninterrupted prosperity.

The three calamities just mentioned have been fatal to the preservation of documents; and valuable account books, registers, and other documents of historical interest are said to have been lost.

Still there are a few legends connecting the place with some of the great heroes of antiquity. Kōbō Daishi, or Kūkai, is said to have visited the place and to have traced the roads around the mountain, though there are traditions that a personage of the name of En no Gyōja has a prior claim to the honour of tracing the roads. The memory of Nichiren is connected with a small Buddhist temple just below the village, apparently the only Buddhist place of worship on the mountain: while the Goshō no Yu or palace-spring, which, together with the Shika no Yu above-mentioned, supplies the baths of Yumoto, connects the mountain with the hero Yoritomo, who was fond of hunting in this vicinity, and had his hunting lodge here. In a later age, Mito Kōmon, the celebrated Lord of Mito, the man to whom we are indebted for the Mito park and the famous gardens of the Mito Yashiki in Tōkyō, mentioned in Mr. Clement's paper before this Society, is said to have

frequently visited the spring in company with his Chinese protégé Shin-getsu; and among the treasures of the Komatsuya is preserved a copy of a poem by Shingetsu written while on a visit there.

Perched up high on the mountain side, surrounded by woods and rocks and far-stretching moorland, the community which clustered around the springs of Mount Nasu, was possessed of no property upon which a tax could be levied, except its hot water. I have been able to find no traces of any system of direct taxation prior to the establishment of the Feudal Régime of the Tokugawas. If there were any taxes levied on the villagers, they must have been very slight, for during the Tokugawa régime the whole village (according to information supplied by the Komatsuya) only paid one *bu* (25 *sen*) per annum to the feudal lord. Even this small sum seems to have been collected with some difficulty, for there was a discount of 24 *mon* (say 2½ cents) made for punctual payment. There were no payments of taxes in kind, for there was apparently nothing with which to pay such taxes. But in lieu of taxes the lord claimed as his own all the money paid by the visitors for the use of the hot baths, and officials were regularly sent to inspect the hotel accounts, and to collect the bath dues. The lord, however, was responsible for a good many expenses connected with the village. He had to construct and keep in order the public baths, which then, as now, ran down the middle of the village street; he was responsible for the maintenance and repair of the Temple of Onsenjinja, which stands just above the village; and in times of special difficulty he was expected to come to the assistance of the villagers. Thus, for instance, after the "wash-out" of 1858, when the villagers were forced to remove to the Shinyashiki where they now live, the lord lent 28 *ryō* (a considerable sum for those times) free of interest to each family, the loan being repaid by instalments over a period of three years.

The bath dues ranged from 3 to 5 *mo* per head per diem, and the number of visitors was probably much smaller than it is to-day when travelling facilities are so good. The lord, therefore, cannot have found his over-lordship a very profitable business as far as Nasu was concerned.

At the present day, the villagers pay 80 *yen* per annum for the use of the hot-springs: and land-tax and other duties amount to about 150 *yen* per annum. In addition to these burdens they are responsible for all repairs and maintenance expenses connected with the hot-springs the Onsenjinja Temple and the roads.

The living of the villagers has always been of the simplest kind. As, however, they produced nothing, they were obliged, then as now, to bring everything in the way of food, &c., on horseback from the plains below; and so the cost of living was probably a little dearer here than in other parts of the same province. Still, transport was cheap, as compared with present prices. About the middle of the fifteenth century (I do not know the exact year) the landlord of the Komatsuya was building a *kura*, the clay for which had to be brought on horseback from Shirakawa, a distance of nearly 6 *ri*. The charge for this (according to account-books still existent) was 16 *mo* per horse-load, a ridiculously low price according to our modern ideas; and yet, when we compare it with the 25 cents annual tax paid by the whole village, it was no such inconsiderable sum after all. From what I have said, it will readily be seen that the difficulties of hotel-keeping in such a place must have been considerable, where a sudden influx of twenty guests might almost have produced a famine. Nasu hotels do not, however, seem to have undertaken to cater for their guests. The visitors, who, then even more than now, came from neighbouring districts, brought with them their own rice, *shōyu*, *miso*, &c., and bought their vegetables and eggs from the villagers; while

the hotel made a small charge for rooms and *futons*, for cooking utensils and lamps. During the Tokugawa period the charges were as follows :—

	<i>mon</i>	<i>mō</i>	<i>mon</i>	<i>mō</i>
For Bath	0	3	0	5
(This as we have seen went to the feudal lord).				
Room	3	0	5	0
Fuel and Charcoal.	1	6	0	0
Futon.....	5	0	6	0
Oil	0	8	0	0
<hr/>				
Total.....	10	9	18	9

Reckoning 10 *mō* to 1 *mon*, and the *mon* at 1 *rin* we get a daily charge of from 1 *sen* to 1 *sen* and a half, and therefore for a sum varying from 320 to 420 *mon* a month, that is to say, a little more than one *bu* and a half, a visitor could have met all his hotel charges. The cost of food would, of course, have to be added to this.

This custom still lingers on at Nasu, though with some modification. Most of the visitors bring with them all their provisions except rice, which they get from the hotel, and vegetables, etc., which they buy from itinerant visitors who come up from the plain. But these are of course only the visitors from the neighbourhood. Those who come from a distance buy everything from the hotel at the usual charges.

As a rule, charges now are just ten times what they were under the feudal régime. For instance, visitors who bring with them their own food are charged 5 *rin* a day for the bath, where in former times they paid 3 or 5 *mō*; and the average price of a room is now 4 *sen* per diem, as against an average of 4 *mon* in the old days. It is perhaps needless to say that these prices do not apply to foreigners.

The village has certain peculiar customs and traditions of its own.

No loom is allowed to exist in the village. When therefore a Nasu woman wants to do some weaving, she has to make arrangements to do it elsewhere. She will pack a *kōri* with a few necessities, such as clothes and provisions, and go off to the house of some kinsfolk in the plains, where she will stay for some time, and then return home with the cloth which she has woven.

Various reasons have been suggested for this custom. One is that the inhabitants of the village, living as they did on the side of a volcanic mountain, felt that at any moment they might have to run for their lives, and that it was not therefore wise to keep at Yumoto such cumbrous pieces of furniture as looms, which would infallibly be lost in case of an eruption or "wash-out."

Against this theory we must, however, set the fact that Nasu San did not become active until 50 years ago, after long quiescence, and the inhabitants of the mountain side have always enjoyed a singularly large amount of immunity from accident.

Another theory is that the whole village was supposed to be sacred, and that the noise of the loom was thought to disturb the sacred quietness of the precincts of Onsenjinja.

It would be interesting to know if this custom exists in other places. The number of villages built around some sacred shrine, and therefore in the shadow, if not the odour, of sanctity, must be very numerous. Is the noise of the loom banished from them also?

If this theory be the correct one (and I think it is the best I have heard advanced) it points to the fact that the god of Onsenjinja must in past ages have been a far more important deity than he is supposed to be now.

This fact is borne out by another local custom which has, however, now died out. No confinement was allowed to take place in the village, a special house being provided

for these interesting events in a valley about two *cho* from the Old Yashiki. The house is now in ruins, and the little strangers of Nasu may now see the light under the paternal roof. The custom probably died out at the time when the old village was washed out, and the people migrated to their new abode. The village then got further away from the Temple, and being outside the sacred precincts, there was no need for this custom to be any longer maintained.

But the god of the Onsen is still venerated as a powerful deity, who makes his care for his village known by prophetic omens and signs. Over the whole area covered by the mountain, it is said, there is but one pair of crows, and these crows, the ministers of Onsenjinja, sent forth to warn the dwellers on Nasu of impending natural calamities, are held in great veneration.

One more local custom deserves to be mentioned. Fowls are not kept in the village, though they are brought every day for sale by the neighbouring farmers, and the people eat them freely. This custom has a historical, not a religious origin. In the time of Yoritomo, the lord of Nasu (known as Sutō gon no Kami, the indirect ancestor of the family of Viscount Oseko, who were the feudal *daimyō* during the Tokugawa period, and had a fief valued at 1,800 *koku* of rice) was at war with that great hero. Yoritomo sent one of his captains against him, and Sutō gon no Kami was shut up in his castle, which was about 7 *ri* distant from Nasu. The castle made a valiant resistance, and was at length only taken by stratagem, Yoritomo's captain took a number of fowls, tied straw to their tails, ignited it, and sent the fowls flying into the castle precincts. The castle was burnt, and the family of Sutō gon no Kami was entirely destroyed. After the establishment of the feudal rule the daimiate devolved upon a collateral branch of the family.

If this story is true it would point to a particularly close bond of sympathy between the village of Nasu and its ancient lord.

Why should the people of Nasu alone shew their respect for the ancient family thus unhappily destroyed, by abstaining from keeping poultry, when all the neighbouring country side were free to do so ?

We have seen, too, that Yoritomo was connected with Nasu, and built his hunting lodge at the village of Yumoto. It is just possible that the village, being bound by ties of special loyalty to their old lords, would be very restive under the rule of their conquerors, and that it may have become a place of refuge for discontented spirits who were in opposition to Yoritomo. In that case Yoritomo's choice of Nasu for the seat of his shooting-box had a measure of policy in it.

Whatever may be the reason the fact remains that the people of Yumoto do not keep chickens.

But we must remember that even in Japan it does not rain for ever, and that, after we had been shut up for six days in the Komatsuya, there at length came a fine day, when we were able to walk out and explore the mountain.

To the West of the village, among the woods at the foot of the crater peaks, is a small spring, Takao mata, the water of which is very strongly impregnated with sulphur. One enterprising individual had commenced extracting sulphur from this spring, and he told me that he was quite satisfied with the result of two years' work. Sulphur is also got in larger quantities from the vicinity of the crater. To ascend the mountain we go in a north-easterly direction, over an elevated plateau covered with admirable pasture. Horse breeding has always been one of the chief occupations in this part of the country, and the industry has during the last few years received

a considerable stimulus. It is a splendid place for horse-breeding, and, I may add, for riding also.

On this plain there is a collection of hot springs, each with its humble hostelry, or farm house, where guests are accommodated during the summer months. During July and August these are crowded to excess, but even in September we found one of these closed for the season. The names of these springs are Ōmaru, Benten no Ike, Asahi, Kita no Yū. The springs at Ōmaru and Benten form pools big enough to swim in, but the former is too hot to enter. At Benten the water is much cooler, and this place is therefore much frequented by visitors to Nasu. Asahi has been only recently opened.

The road now works its way up the mountain to a ridge connecting the crater-peak on the left with the peak known as Asahisan on the right. It is a very easy ascent. Going on the other side towards Aidzu there is a spring at Sandogoya, about two miles from the crater; from there a sharp descent of three *ri* will bring the traveller to the dirty village of Itamuro, where I am sure he will not want to stay; and from that spot he may either go directly across the plain to Kuroiso, or he can complete the circuit of the mountain going over more grassy country till he gets back again to Nasu no Yumoto.

A LIST OF PLANTS FROM FORMOSA.

WITH SOME PRELIMINARY REMARKS ON THE
GEOGRAPHY, NATURE OF THE FLORA AND
ECONOMIC BOTANY OF THE ISLAND.

BY AUGUSTINE HENRY, M.A., F.L.S.

The island of Formosa, covering an area of about 15,000 square miles, lies between 22° and 25° north latitude and between 120° and 125° east longitude, its greatest length being about 235 miles and its greatest width some 90 miles. It is separated from the mainland of China by the Formosa Channel, which varies in width from 80 to 200 miles. This stretch of sea is everywhere shallow, nowhere deeper than 100 fathoms. In great contrast with this is the ocean on the eastern side of Formosa, which at no great distance from the shore attains 1,000 fathoms of depth, and further out speedily sinks to enormous

depths. Formosa is thus a continental island, and doubtless was connected with the Chinese mainland in recent geological times. The flora, mainly Chinese in character, bears out this view; and we meet with no exceptional types of vegetation. Indeed there is not a single genus peculiar to the island.

Formosa is divisible into two very distinct, eastern and western, halves. On the east is an entirely mountainous district, made up of great mountain masses, practically one range from north to south, which rises in peaks to from 9,000 to 13,000 feet, and keeps a great altitude even on the very shore of the Pacific, where the highest cliffs in the world occur. The western half is an alluvial plain, little elevated above sea-level, interspersed with shallow creeks and rivers, and ending seaward in sandbanks and muddy spits. Some low ranges of hills occur here and there on the plain: and at Takow there is the small mountain mass of Ape's Hill, 1,100 feet in height. At Takow there is also a lagoon, several miles in length, skirted on its shores with mangrove swamps. One or two small lakes occur inland from Takow on the plain. The large and interesting Lake Candidius has not been visited by any botanical collector. The flora of these two main divisions of the island is markedly different. In the mountains we meet with the plants already in great measure familiar to us in the mountains of Central China and Japan. The plants of the plain are those which occur on the plains of India and South China.

The climate, considering the small area concerned, presents great diversity. Near the South Cape, and inland close to the mountains as far north as the tropic of Cancer, the climate is tropical. There is no marked winter season, and flowers are to be seen in profusion at the South Cape at Christmas. At Takow, on the west coast, well within the tropics, there is a decided winter with a stop to the growth of vegetation. Here the yearly range of tem-

perature is from 42° to 93° F.; and there is little rainfall, except in the summer months, May to September. At Tamsui, in the north of the island, the climate is more extreme, the temperature ranging from 36° to 96°, and much rain falls in the winter months. This diversity of climate has some effect on the distribution of plants in the island. For example, the wild roses of the north apparently do not come further south than Tainanfoo; and some distinctly tropical plants occur only at the South Cape.

In my remarks on the nature of the flora it must be taken into account that the mountainous half of the island is practically unexplored, and that many more species remain to be discovered. In fact, I estimate that only half the plants of the island are now known. The present list, then, gives a very imperfect aspect of the flora. It contains in all (exclusive of a few *Algæ*) 1,429 plants, made up of 1,283 flowering plants, 131 ferns and 15 fern-allies. From these numbers must be excluded 81 plants which occur only in cultivation, and 20 naturalized plants. There remain, then, native to the island 1,328 plants, consisting of 1,182 flowering plants, 131 ferns and 15 fern-allies. The cultivated plants are distinguished as such on the list, and need not be repeated here. It may be interesting, however, to show in a table the naturalized plants, *i.e.*, those which have been introduced directly or indirectly by the agency of men, but which now are independent of him as regards their perpetuation. They are indistinguishable, except by their history, from native wild plants, and are an integral part of the flora. They are shown in the following table:—

<i>Malvastrum tricuspedatum.</i>	<i>Pachyrhizus angulatus.</i>
<i>Pithecolobium dulce.</i>	<i>Psidium Guyava.</i>
<i>Tagetes Patula.</i>	<i>Asclepias Curassavica.</i>
<i>Erythraea spicata.</i>	<i>Ipomœa Quamoclit.</i>
<i>Capsicum minimum.</i>	<i>Lycopersicum esculentum.</i>
<i>Vinca rosea.</i>	<i>Scoparia dulcis.</i>

<i>Hyptis capitata.</i>	<i>Hyptis suaveolens.</i>
<i>Stachys arvensis.</i>	<i>Mirabilis jalapa.</i>
<i>Euphorbia Tirucalli.</i>	<i>Jatropha curcas.</i>
<i>Ricinus Communis.</i>	<i>Agave rigida.</i>

Most of these plants are American in origin, and they were probably introduced in most instances with seeds of cultivated American plants, of which so many are now common in China, as Tobacco, Maize, Ground-nut, Sweet Potato, Papaw, Pine-apple, Sweet-Sop. The Castor-oil plant and *Euphorbia Tirucalli* are supposed to be of African origin.

The island may be divided into three great floral regions; the shore, the plain, and the mountain.

1. The *Mountain flora* includes, with one or two trifling exceptions, all the endemic plants. The remainder, the great majority, are plants which Formosa has in common with Central and South China, and Japan. Ape's Hill is considered to be an outlying point of the mountain region.

2. The *Plain flora* is much the same as that of the Indian plain; but is less varied. It has no peculiar species, except a few belonging to the Philippine Islands flora. It includes the weeds of cultivation.

3. The *Littoral flora* is a well marked but small one; still it is richer than that of the whole coast of China; and this would seem to show that the Formosan shore is the older shore, and has had more time to receive more inhabitants. This confirms of course the theory of mainland connexion in recent geological time. In the following table the plants marked with an asterisk are not recorded from the shore of the Chinese mainland; those marked with a dagger are peculiar to mangrove swamps:—

LITTORAL FLORA OF FORMOSA.

<i>Hibiscus tiliaceus</i>	* <i>Statice Wrightii</i>
<i>Heritiera littoralis</i>	<i>Cerbera Odollam</i>

Canavalia obtusifolia	*Tournefortia argentea
Derris uliginosa	*Tournefortia sarmentosa
Pongamia glabra	Ipomea bilota
Sophora tomentosa	Ipomea carnosae
Caesalpinia Bonducella	Myoporum bontiodides
†Kandelia Rheedii	Clerodendron inerme
†Bruguiera cylindrica	†Avicennia officinalis
*†Rhizophora mucronata	Euphorbia atoto
*†Lumnitzera racemosa	Glochidion hongkongense
*Barringtonia racemosa	Excæcaria agallocha
*Pemphis acidula	Alnus maritima
*Tetragonia expansa	Pandanus odoratissimus
Sesuvium Portulacastrum	Pycnus polystachys
Wedelia biflora	Spinifex squarrosus
Scævola Koenigii	Zoysia pungens

Considered from another point of view the flora is made up of the following elements, it being still borne in mind how deficient is our knowledge of the plants of the mountainous region :

A. *Endemic Element*. Plants known only on the Island. This includes 103 species, representing 79 genera; but not a single genus peculiar to the island. Except *Fimbristylis formosensis*, which perhaps occurs only on the sea-shore, these are all mountain plants. This element will certainly be largely increased by further explorations. It is indicated on the list by the asterisk affixed to the numbers.

B. *Indian Plain flora*. Plants which occur also in India, South China, etc. This element includes the weeds of cultivation, and most of the plants found on the non-hilly part of the island.

C. *The flora which is characteristic of the great region extending from the Himalayas through Central China to Japan, a region extremely rich in species*. Most of the mountain plants of Formosa belong to this grand flora.

D. *Phillippine Islands element*. This is small in number of species, and is apparently only met with in the south of the island.

E. *Outliers of the Australian region*. A few plants, the most characteristic being *Acacia Richii*, a large tree belonging to the Australian section of the genus *Acacia*, in which the leaves are absent, being represented by *phyllodes* (leaf-like enlargements of the leaf-stalk). *Schoenus falcatus*, *Tristellateia australasica*, *Ipeltes australis*, and *Glossogyne tenuifolia* belong to this element.

Some of the plants hitherto supposed to be endemic in Hongkong have now been found to occur in Formosa also; and further explorations of the Chinese mainland and of Formosa will probably deprive Hongkong of its claim to local species. Considering that Hongkong, lying due west of Takow, is only separated from it by 200 miles of shallow sea, there is a great difference in the flora of the two places, taking equal areas into account. The littoral plants especially are different.

Again recalling to mind our limited knowledge of the Formosan flora, it would be useless to make elaborate statistical comparisons with the floras of adjoining regions. Still, taking the first 200 species on the List as a sample, I find that

14	species are naturalized or cultivated plants:
123	“ occur also on the Chinese mainland:
91	“ are met with in the Indo-Malayan region:
72	“ also occur in Hongkong:
58	“ only are common to Japan and Formosa:
20	“ are peculiar to Formosa.

This would show a slight connexion with Japan indeed; but I think numerous Japanese plants are yet to be found in the mountains; and the above proportions will be subject to material alterations.

The 1,182 flowering plants belong to as many as 628 genera,—an abnormally high proportion of genera, but

one such as is common in insular floræ. Here again further exploration will materially alter these figures; the species will be doubled without any great addition to the number of genera. The genera most largely represented by species are:—

Vitis,	12 species	Ficus,	18 species
Crotalaria,	10 “	Cyperus,	12 “ (but
Desmodium,	17 “	in an extended sense, in-	
Blumea,	10 “	cluding <i>Pyereus</i> , etc.,—22.	
Ipomœa,	18 “	species.)	
Polygonum,	17 “		

The largest natural orders are:—

Leguminosæ;	109 species;	44 genera.
Compositæ;	80 “	38 “
Euphorbiacæ;	45 “	20 “
Urticacæ;	64 “	21 “
Orchidacæ;	41 “	26 “
Cyperacæ;	58 “	15 “
Gramineæ;	53 “	34 “

The early collectors of plants in Formosa were Oldham and Wilford, who, however, only botanized near the coast at one or two points. Swinhoe, who did so much for the fauna, also collected some plants in early days. At Tamsui, later, Watters and Hancock made small but interesting collections. Prof. Steere of Ann Arbour, Michigan, visited the north end of the island and collected a little. Mr. Ford, of Hongkong, has paid a visit to Kelung and discovered some new and interesting species. The Rev. W. Campbell made a collection in the centre of the island, which unhappily was much injured on its way to the coast. This collection is now embodied in the General Herbarium of the British Museum. Playfair, while acting as Consul at Tainan, made an admirable collection of over 400 species, chiefly on Ape's Hill and around Takow. This collection is at Kew. During 1893 and 1894 I made

large collections on Ape's Hill, around Takow, and on the plain as far as the lakes. I also paid short visits to Bankinsing and the South Cape. At Bankinsing, a village some 80 miles east of Takow, at the base of the lofty Kalee mountains, I had a native collector almost constantly employed; but he botanized in constant fear of the savages, and certainly never reached higher than 2,000 feet on the mountains. At the South Cape, Mr. Schmürer, a light-keeper, collected for me: and under his guidance the savage chief "Captin" made an excellent collection; but still at no great elevation. Indeed, 3,000 feet may be considered the highest altitude at which plants have been collected in Formosa; and between that and 13,000 feet is absolutely unexplored. Mr. Morse collected for me at Tamsui and added quite a number of species to the flora. His collection is incorporated with mine. Tashiro has collected on the Pescadores; and I have quoted his findings from the *Japan Botanical Magazine*.

All the material on which our present knowledge of the flora of Formosa is based, lies practically at Kew and in the British Museum, as there is very little in continental or American herbaria. Sets of my collections are in the herbaria at Calcutta and Hongkong. Exclusive of the scattered papers of Hance, Maximowicz, and Baker, the only scientific publication worth mentioning on the botany of Formosa is the *Index Floræ Sinensis*, appearing in parts issued by the Linnean Society. The first ten parts, however, only take up early collections. The eleventh part begins to deal with Playfair's collection. Succeeding parts, beginning with *Ficus* in the Candollean sequence, will include my collection. In making out the present list, I have utilized the *Index Floræ Sinensis*, so far as published: and have incorporated my own and Playfair's collections, so that the list may be considered fairly complete, so far as regards the material in herbaria. It may be considered rather complete as regards Ferns and

Dicotyledons; the Monocotyledons are somewhat incomplete. Mr. Playfair's collection was determined at Kew. With regard to the determination of my own collection, the Monocotyledons (except grasses) were determined by the Kew Staff and Mr. C. B. Clarke, who kindly identified the cyperaceæ. Mr. Baker looked after the Ferns. I went over the Dicotyledons myself; and Mr. Hemsley and Dr. Oliver did a part of these. Their results have appeared in the *Annals of Botany, Hook. Icones Plantarum*, etc., quoted in the List. The greater part of my *Labiata*, *Acanthaceæ* and *Gramineæ* are still undetermined.

In Mr. Perkins's *Report on Formosa* (FOREIGN OFFICE; *Commercial No. 1, 1896*) there is an appendix, a popular account of the botany of Formosa, by myself. This article has been reprinted in *Kew Bulletin, March, 1896*. The information given therein on the economic botany is reproduced and extended in the List under the plants concerned. It may be well here to give some references, which will bind this scattered information together.

The most interesting vegetable products of the island, exclusive of the cereals and ordinary crops, which are the same as met with in South China, are:—Camphor, Tea, Indigo, Textile Fibres, Turmeric, Dye-yam, Rattans, Mats, Timbers, Soap-fruits, Ok-gue, Rice-paper Pith.

Concerning Camphor and Tea, since I did not visit the districts of production, I have nothing especial to say (See *List*, Nos. 87, 891) except that I have pointed out the possibility of the rise of a Camphor industry on the Chinese mainland, in case the Japanese Government by restricted monopolies in Formosa and Japan raise the price of camphor to a high figure. I have not been able to get at any documents concerning the introduction of tea into Formosa and its subsequent history: and I hope some one will be able to supply this gap in our information. Concerning Indigo, see Nos. 215, 216; Turmeric, No. 1085; Dye-yam, No. 1,102; Rattans, Nos. 1,141, 1,142. The

subject of Matting in general (the Formosan, Ningpo and Canton kinds) is dealt with in No. 1,177,

The chief textile plants are China-grass, Jute and Pine-apple: see Nos. 118, 1,010, 1,190. A little Cotton is also cultivated; but it is of no commercial importance. The Cotton Tree, or *Bombax*, is common enough, but scarcely utilized (Nos. 103, 104). The savages make peculiar cloths and game-bags out of certain fibres (see Nos. 105, 976, 1,010): and this subject is interesting in connexion with a question raised by Schlegel as to what is the tree referred to in ancient histories of Formosa, the bark of which was woven into cloth. See No. 976.

For possible paper-making materials, common enough, but unutilized, see Nos. 910 and 975, under *Wikstroemia* and *Broussonetia*.

Valuable timber-trees occur on the island; and I have tried to identify their native names. The most important are the Laurel-woods (*Lama*, 'Shau-lam, Nos. 894, 895), Camphor-wood, *Bischofia*, *Lagerstroemia*, *Quercus* (several species), *Castanopsis*, *Podocarpus*, *Diospyros*, *Elaeocarpus*, *Acacia Richii*, *Liquidambar*, *Ehretia*, *Celtis*. A local source of wood for tea-chests is indicated in No. 352.

Medicines, excluding Turmeric and Camphor, are a trifling heading in Customs Returns of Formosa. A few occur, as Wei-ling-hsien (No. 2), Capoor-cutchery (No. 1,084), Nao-yang-hua (No. 710), Chin-shêng (No. 27), Po-chi-li (No. 126), Ko-kên (No. 268), Lan-ts'ao (No. 491), etc.

The *Soap-trees*, which are coming into commercial importance as sources of saponin, apparently now used in Europe as the basis of new methods of cleansing and washing, are indicated in Nos. 189, 300. The so-called *Rice-paper Pith*, an interesting industry in which is carried on in Szechuan and Formosa, is referred to in No. 436.

A possible field for a new industry is suggested by the occurrence in Formosa of the plant from which is

produced in Hainan the costly *Ai Camphor*: and some points in connection with this are treated of in No. 509.

Other vegetable products of some economic interest are:—A local garoo-wood (No. 965); vegetable tallow (No. 964); Castor Oil (No. 960); and *Ok-gue*, which is a fig yielding large quantities of jelly (No. 986).

Concerning the Opium Poppy and false Star-Aniseed, there are a few remarks in Nos. 88 and 10.

The most beautiful plants are the various tree-orchids, of which perhaps *Phalaenopsis Aphrodite* is the most striking. True *Lilium Longiflorum* is met with wild at both ends of the island. *Clerodendron paniculatum* is remarkable for its fiery red flowers. There is a pretty twining *Jasmine*, worthy of introduction into European gardens. *Kelmannia Oldhami* is an elegant plant. The *Gardenia* is common wild. *Costus speciosus* is a lovely plant, met with generally in the shade of bamboo groves. Palms are not numerous in species: but one of them, a small one, *Arenga Engleri*, is very beautiful, and should be introduced into European conservatories. I need say nothing on the beauty of the Ferns, which is well-known to everyone in the East. There are many graceful, many useful Bamboos,—some of the latter very large in diameter indeed and used for making the local *tek-pais* or catamarans; but our botanical knowledge of Formosan bamboos is scanty indeed.

Of peculiar plants, a new species of *Amorphophallus*, found on Ape's Hill, is perhaps the most curious. From a tube arises a leafless spadix, expanded above into a hollow organ, covered with bristles, dull red or purple in colour, a gruesome sight, at which I have seen dogs take fright. In the following year, it sends up its leaves. *Epipremum mirabile*, the Tonga plant, is a gigantic climber, remarkable for its loop-holed and indented large leaves. It is perhaps not so large a climber as *Entada scandens*, which occurs in the mountains, and bears enormous pods

with great seeds. These seeds may be picked up on the sea shore near Takow, just as they are occasionally found on the west of Ireland, drifted from the West Indies. On the ticket of a specimen sent by a collector from Formosa appears, on the authority of a missionary, the statement that "this is an enormous climber, which climbs up one side of the mountain and down the other,"—perhaps a statement not strictly accurate.

The *Stinging-Tree*, a species of *Laportea*, is very unexpected in its effects on anyone ignorant of its quality. *Euphorbia Tirucalli* is a common and queer-looking shrub. The fruits of *Barringtonia speciosa*, often met with like the tree itself, on the South Coast, are remarkable for their size, shape, and protective coating.

The curious change, as the day advances, in the two common species of *Hibiscus*, is described in Nos. 98, 102. *Myoporum bontioides* is very interesting from a botanica point of view.

I may now add a few words of comment on some publications, which deal incidentally with the botany of Formosa. Hancock, in *Customs Trade Report on Tamsui for 1881*, gives some account of the flora of the north end of the island and of the agriculture. He refers to the taro (see List, No. 1,150) as *caladium*, a genus which is unknown in China and Japan either wild or cultivated. It is necessary here to advert to this error, which appears in many Chinese dictionaries, where *caladium* is given when either the *Taro*, or the arrow-head, is meant.

Hosie, in *Consular Report on Formosa for 1893*, has treated of the economic botany; but there are some errors in his nomenclature. He refers the indigo of Formosa to *Polygonum orientale* and *chinense*, which are two common wild plants, never used to produce indigo. He doubtless was thinking of *Polygonum tinctorium*, which yields a peculiar kind of indigo, and is cultivated for that end in Manchuria and Japan. No one has yet obtained an actual specimen

of the banana said to be used for making savage cloth; and Hosie's determination is only a guess. His identification of Tamsui rattans (see No. 1,142) is wrong: and there is only one species of *Ricinus* in Formosa, the common one.

Mackay, in "*From Far Formosa*," devotes a chapter to the "Trees, Plants and Flowers,"—which contains a good deal of information; but is very inaccurate as regards scientific nomenclature. It may be worth while to point some of these out. *Shau-lam* (p. 55) is said to be *Thuja formosana*, a tree unknown to botanists. The wood in question is a kind of laurel: and this identification of the *nan-mu* (or *lam-a*) with cedar is a common error in books dealing with China. *Azebifera*, p. 56, should be *sebifera*. The mulberry in Formosa is *Morus alba*. *Morus nigra* is the European species. The scientific names for *banyan*, *Rattan*, *Soap-tree*, *Cayenne Pepper*, *Kiu-kong*, *Arbutus*, given by Mackay are wrong. On p. 61 he asserts that there is only one indigenous fig, whereas *Ficus* is the genus which has the greatest number of species in Formosa. On p. 64 he identifies the source of the Taika matting; but see List No. 1,177. On p. 65, read *Alpinia mutans* as the equivalent of *gétto*; and for *Arbus* read *abrus*. P. 66, *Cessemum* is a gross misprint for *Sesamum*. His Latin names for the Sugar-cane, the Formosan leek and onion, and *Kao-pak-sun* are erroneous (see Nos. 1,245, 1,237). The Formosan thorn-apple is *Datura alba*, not the species mentioned on p. 73. His *Convolvulus bryonæfolius* and *Ixora apperis* are misleading names. With regard to indigo (p. 65), see List, No. 215.

In the List, references are occasionally made to the Gazetteer, by which is meant the Chinese Official Guide to the Island, the *Tai-wan-fu-chih*, 臺灣府志.

The plants known only from the island are distinguished by an asterisk affixed to the number of the plant.

No one can be more sensible of the defects of the following List than myself; but I have taken a great deal of pains to make it a correct account of our present knowledge of the botany of the island; and as the first attempt to outline the flora of Formosa, I believe it will be found useful.*

I.—FLOWERING PLANTS.

1. *Clematis apiifolia*, D. C. Bankinsing, Henry 587.
2. *Clematis chinensis*, Retz. Takow; Playfair, Henry, Swinhoe. Bankinsing; Henry 189, 465.
 "Wei-ling-hsien, 威靈仙, the root used as a drug." Customs Returns show an export of a drug of this name from Chekiang, Kwangsi, Anhwei and Fukien. See my *Notes on Economic Botany of China*, p. 51; where the statement occurs that this drug is not *Clematis*. The drug specimens require re-examination to decide the point.
3. *Clematis grata*, Wall. N. E. side; Wilford, Oldham. South Cape; Henry 904, 997.
- 4.* *Clematis Formosana*, Kuntze, Hook. *lc. Plant*, 1,945. Ape's Hill; Playfair, Henry.
5. *Clematis Meyeniana*, Walp. Tamsui; Oldham.
6. *Clematis parviloba*, Gard. et Champ. South Cape, Bankinsing; Henry 846, 1,320.
7. *Clematis recta*, L. var. South Cape; Henry, 1,289.
8. *Ranunculus sceleratus*, L. Takow; Henry.
9. *Ranunculus ternatus*, Thunb. Tamsui; Oldham.
10. *Illicium anisatum*, L. South Cape; Henry 1,316.

* In the *Tokyo Botanical Magazine* a series of articles by Owatari is appearing under the title "Botanical Excursion to Formosa; and doubtless some species not mentioned in the List will be found in these articles.

This shrub occurs in Japan and in different parts of China, and its fruit is very poisonous, cases of death from the use of it being frequent in Japan. Fatal cases have also been recorded in Europe, at Altona, and in Bombay. True star-aniseed is produced by *Illicium verum*, *Hk. f.* met with only in Kwangsi and Tonking.

In Japan the false star-aniseed, the product of *I. anisatum*, *L.* is known as *shikimi*; and its poisonous nature is very well known. It is astonishing, in view of the deadly nature of the article, to find that it is largely imported into China, the import into Shanghai for 1895 being 4,100 piculs, valued at 24,600 taels. Of true star-aniseed the import was 2,950 piculs valued at 41,900 taels. I have not been able to ascertain what becomes of this enormous importation of an article, which if used as food, must have serious consequences. It is said that the Chinese know its poisonous nature, and only use it as a drug, or in minute quantity as a spice.

The *shikimi* fruit has a disagreeable odor, and differs in appearance in certain points from the true star-aniseed: but the best test apparently is that recommended by Langfurth. A doubtful specimen should be crushed in an iron mortar; the *shikimi* fruit will give out a strong odour, resembling a mixture of sassafras and capjeput oil, and presenting no similarity to that of the true star-anise.

After the fatal accidents at Altona steps were taken in Germany to prevent the importation of the Japanese product. There is a good deal of literature on the subject; and I may refer those interested to Eykman's article in

Mittheilungen der Deut. Gesell. Ost. Asiens,
23 Heft, 1881, p. 120; and to the London
Pharmaceutical Journal, XI, 430, 453, 489;
XVI, 632; XIX, 1,060.

11. *Magnolia* sp. South Cape; Henry 2,060.
12. *Magnolia pumila*, Andr. Tamsui; Oldham.
13. *Michelia compressa*, Maxim. South Cape; Bankinsing, Tamsui; Henry, 946, 1,467, 1,543.
- 14.* *Michelia* sp. nova aff. *fuscatae*. South Cape; Henry, 1,984.
15. *Michelia fuscata*, Bl. Bankinsing; Henry 163, cultivated and known as *Han-hsiao*, 含笑.
16. *Trochodendron aralioides* S. et Z. Tamsui; Morse (Henry No. 1,398); South Cape; Henry 1,981.
17. *Kadsura Japonica*, L. South Cape; Bankinsing; Henry 1,284, 1,553, 1,681.
18. *Artabotrys odoratissimus* R. Br. Tamsui; Oldham.
19. *Anona squamosa*, L. Takow; Playfair, Henry.
This American tree, the *sweet-sop*, is cultivated, having been introduced, according to the Gazetteer, by the Dutch. The common colloquial name is *Shih-chia-kuo*, 釋迦菓. The Gazetteer gives as additional names—*fan-li-chih*, 番荔枝, *fo-t'ou-kuo*, 佛頭菓, and *fan-li*, 番梨.
- 20.* *Melodorum Oldhami*, Hemsley. Oldham.
- 21.* *Cocculus cuneatus* Benth. From North to South; Wildford, Swinhoe, Maries, Playfair, Henry 1,925.
22. *Cocculus laurifolius*, D.C. Bankinsing; Henry 56, 171.
23. *Cocculus Thuybergii*, D.C. Tamsui; Morse, Takow; Playfair, Henry.
24. *Pericampylus incanus*, Miers. Bankinsing; Henry 481, 559.
25. *Stephania hernandifolia*, Walp. South Cape; Bankinsing, Ape's Hill: Henry 339.

26. *Stephania tetrandra*, S. Moore. Tamsui; Oldham.
27. *Limacia* sp. Bankinsing; Henry 152. This plant has a tuberous root, and this is used as a medicinal simple, named Chin-shêng, 金生. This name appears on the Customs *List of Medicines*, as an export from Shanghai.
28. *Menispermaceae*, undetermined.
A twining plant on Ape's Hill; Henry 1,166, 1,864.
29. *Akebia* sp. Ape's Hill, Bankinsing; Henry 319, 1,829.
- 30.* *Podophyllum pleianthum*, Hance. Tamsui; Watters.
31. *Euryale ferox*, Salisb. Oldham.
32. *Nelumbium speciosum*, Willd. Takow plain, cultivated; Henry.
33. *Papaver somniferum*, L. Cultivated.
In 1887, when the Customs Yellow Book, *Native opium* (*Special Series*, 9) was published, nothing was known about the cultivation of the Opium Poppy in Formosa; but in the *Customs Trade Report for 1890*, Mr. Brazier notes that attempts were being made to grow it in the Lokang district. Mr. Spinney, in his Report for 1894, estimates that 60 or 70 piculs of opium of inferior quality were produced that year in the Kagee district.
34. *Corydalis pallida*, Pers. Various collectors.
35. *Corydalis racemosa*, Pers. Tamsui; Morse (Henry, No. 1,781).
36. *Nasturtium globosum*, Turcz. South Cape; Henry 265.
37. *Nasturtium montanum*, Wall. Tamsui; Oldham, Takow plain; Henry 1,792.
38. *Cardamine parviflora*, L. Oldham.
39. *Brassica campestris*, L. Cultivated.
40. *Brassica juncea*, Hk. f. et T. Bankinsing, Henry 1,720. Common wild.
41. *Capsella bursa-pastoris*, Moench. South Cape; Henry 1,992.

42. *Senebiera pinnatifida*, D.C. Pescadores; Tashiro.
43. *Gynandropsis pentaphylla*, D.C. Bankinsing; Henry.
44. *Polanisia viscosa*, D.C. South Cape; Henry 608.
Pescadores, Tashiro.
45. *Cleome pungens*, Willd. Pescadores, Tashiro.
46. *Capparis membranacea*, Gard et Champ, *varietates*,
South Cape, Bankinsing; Henry 405, 410, 544.
- 47.* *Capparis membranacea*, Gard et Champ. *Var.*
angustissima, Hemsley, *Ann. of Bot.* IX. 145.
Bankinsing; Henry 471, 1,005.
- 48.* *Capparis* sp. (allied to *C. membranacea* and *C.*
hainanensis). Takow, Bankinsing; Playfair
220, Henry 570.
- 49.* *Capparis formosana*, Hemsley, *Ann. of Bot.* IX.
145. Ape's Hill, Bankinsing; Henry 160,
501, 2,069.
50. *Crataeva religiosa*, Forst. Ape's Hill; Henry 794.
51. *Viola diffusa*, Ging. Swinhoe.
52. *Viola japonica*, Langel. Various collectors.
53. *Viola verecunda*, A. Gray. Tamsui; Oldham.
54. *Scolopia crenata*, Clos. Oldham. Takow; Playfair,
Henry; Bankinsing, South Cape; Henry 296,
976, 2,059.
55. *Idesia polycarpa*, Maxim. Bankinsing; Henry 429.
56. *Pittosporum Tobira*, Ait. Tamsui; Oldham, Morse.
- 57.* *Pittosporum* sp. nova. Takow, Bankinsing; South
Cape; Henry 48, 256, 822, 977, 1,058, 1,070,
1,888; Takow, Playfair 52.
A large shrub or small tree, known as *chi-yu*, 鷄柔,
or *kuei-jou*, 圭柔. Some natives speak of it
as the *ch'i-li-hsiang*, 七里香; but it is scarcely
the tree described under this name in the
Gazeteer.
58. *Polygala japonica*, Houtt. Various collectors.
59. *Polygala glomerata*, Lour. Bankinsing; Henry
1,828.

60. *Silene Fortunei*, Vis. Tamsui; Oldham, Hancock, Morse (Henry No. 1,388). Beach on N. W. coast; Wilford.
61. *Stellaria uliginosa*, Murray. Oldham.
62. *Drymaria cordata*, Willd. Tamsui; Oldham.
63. *Portulaca oleracea*, L. Takow; Henry 1,790. Pescadores; Tashiro.
64. *Bergia glandulosa*, Turcz. Takow, South Cape, in rice-fields; Henry 246, 278, 1,722, 1,187.
65. *Hypericum chinense*, L. Tamsui; Oldham.
- 66.* *Hypericum formosanum*, Maxim. Tamsui; Oldham.
- 67.* *Hypericum geminiflorum*, Hemsley, Ann. of Bot. IX, 144. Ape's Hill; Henry 1,155.
68. *Hypericum japonicum*, Thunb. Tamsui; Oldham. Takow, Bankinsing; Henry 1,667, 1,698, 1,787.
69. *Hypericum Sampsoni*, Hance. Tamsui; Oldham.
- 70.* *Hypericum trinervium*, Hemsley, Ann. of Bot. IX, 144. South Cape; Henry 906, 1,324.
71. *Garcinia multiflora*, Champ. Bankinsing, South Cape; Henry 411, 512, 1,338, 1,604, 2,052.
72. *Calophyllum Inophyllum*, L. Tamsui; Morse (Henry No. 1,694). South Cape; Henry 908.
73. *Ternstroemia japonica*, Thunb. South Cape; Henry 1,365.
74. *Adinandra* sp. Bankinsing; Henry 514, 1,588.
75. *Adinandra Millettii*, B. et H. f. var. (?). Tamsui; Oldham 37. South Cape; Henry 981, 1,985, 2,058.
76. *Cleyera ochracea*, D.C. Kelung; Wilford, Ford, Tamsui; Oldham, Morse (Henry No. 1,468).
77. *Eurya japonica*, Thunb. Kelung; Oldham, Ford, Tamsui; Morse. Bankinsing, South Cape; Henry 20, 21, 122, 196, 375, 535, 1,004, 1,465, 1,987.

This species is very variable: still these numbers may include more than one species.

78. *Actinidia callosa*, Ldl. Kelung; Ford. Tamsui; Morse (Henry No. 1,888). Bankinsing; Henry 1,650.

The last specimen is referred to this species with much hesitation.

79. *Actinidia championi*, Benth. Bankinsing; Henry 825.

- 80.* *Saurauja Oldhami*, Hemsley. Tamsui; Oldham. Bankinsing, South Cape; Henry 507, 1,244.

81. *Stachyurus himalaiacus*, Hk. f. et T. var. (?) Bankinsing; Henry 35.

82. *Schima Noronhoe*, Reinw. South Cape; Henry 366, 659.

83. *Gardonia anomala*, Spreng. South Cape; Henry 215, 685.

84. *Camellia euryoides*, Lindl. Bankinsing; Henry 90.

- 85.* *Camellia gracilis*, Hemsley, Ann. of Bot. IX, 146. Bankinsing; Henry 1,612.

86. *Camellia* sp. Bankinsing; Henry 123, 503, 832.

87. *Camellia thea*, Link. Cultivated in the North of the Island.

88. *Malvastrum tricuspidatum*, A. Gray. An American plant naturalized and common at Takow; Playfair, Henry.

89. *Sida acuta*, Burm. Tamsui; Oldham. Takow, South Cape; Henry 228.

90. *Sida cordifolia*, L. Tamsui; Oldham. Takow; Playfair, Henry.

91. *Sida humilis*, Willd. Swinhoe. Takow; Playfair, Henry. South Cape; 273.

92. *Sida rhombifolia*, L. Takow; Henry 1,325. Pescadores; Tashiro.

93. *Abutilon asiaticum*, Don. Takow. South Cape; Henry 292, 404.

94. *Abutilon indicum*, Don. Pescadores; Tashiro. Takow, Bankinsing, Lambay Isle; Henry 1,182.
95. *Urena lobata*, L. Takow; Playfair, Henry.
96. *Urena sinuata*, L. Takow, Bankinsing; Henry 69. Tamsui; Morse.
97. *Hibiscus abelmoschus*, L. Oldham. Takow Plain, Bankinsing, South Cape; Henry 808, 1,265.
98. *Hibiscus mutabilis*, L. Common and certainly wild about Takow; Henry. A shrub with flowers changing from white to red as the day advances. Known as *F'u-yung*, 芙蓉.
99. *Hibiscus rosa-sinensis*, L. Oldham. Takow spits; Henry; apparently only in cultivation, known as *fo-sang*, 佛桑. The Gazetteer says "it is a kind of *Mu-chin*, 木槿; red, yellow, and white kinds occur. There are single and double flowered varieties, the former being, *Chao-tien-hung*, 照殿紅."
100. *Hibiscus surattensis*, L. Bankinsing; Henry 168, 1,584.
101. *Hibiscus syriacus*, L. Ape's Hill, a small shrub with white flowers, rather rare; Henry 1,092. This is a well marked wild form. Known in Chinese books and on the mainland as *Mu-chin*, 木槿.
102. *Hibiscus tiliaceus*, L. Tamsui; Oldham. Pescadores; Tashiro. Takow, South Cape; Playfair, Henry. A common small tree with sulphur-yellow flowers, changing as the day goes on to a dark red.
103. *Gossypium herbaceum*, L. The cotton plant, cultivated a little in gardens near Takow: Henry 1,899.
104. *Bombax malabaricum*, D.C. Takow; Playfair, Henry. The tree-cotton or *moc-main*, described in the

Gazetteer as 斑支 or 攀支,—local pronunciation in Formosa, *pên-chi*. The tree is known on the mainland as *mu-mien*, 木棉; and the flowers are used in Chinese medicine. The capsules furnish a cotton used for stuffing pillows, etc.

105. *Sterculia platanifolia*, Linn. f. Tamsui; Oldham, Morse (Henry No. 1,387). South Cape; Henry 963.

Said to be common on the mountains, and known in Formosa as *ch'ing t'ung*, 青桐. The savages make a kind of cloth from the inner bark of the young trees; but I was unable to obtain a sample. Mr. Montgomery in the *Customs Decennial Reports*, p. 447, gives an account of the different kinds of savage cloth. See later, in this paper, under *Boehmeria* and *Morus* (976, 1,010).

This tree is known in books and on the mainland as *wu-t'ung*, 梧桐. In Hupeh the fibre is made into shoes and rope. See *Notes on Economic Botany of China*, p. 61. The seeds are used in Chinese medicine;—*Wu t'ung-tzü*, 梧桐子.

106. *Heritiera littoralis*, Ait. Oldham. South Cape; Henry 605.

107. *Reevesia thyrsoidea*, Lindl. var. South Cape; Henry 1,970.

108. *Kleinhovia hospita*, L. Takow; Plapfair, Henry Bankinsing, South Cape; Henry 12, 1,280.

109. *Helicteres angustifolia*, L. Various collectors. Takow plain, Bankinsing; Henry 6, 538, 1,768.

110. *Melochia cecchorifolia*, Linn. f. Various collectors. Takow plain, Bankinsing; Henry 573, 2,037.

111. *Waltheria indica*, L. Takow; Playfair, Bankinsing; Henry 395.

112. *Grewia parviflora*, Bunge, var.? Bankinsing; South Cape; Henry 406, 820, 1,206, 1,854.
113. *Grewia piscatorum*, Hance. Oldham. Takow; Playfair, Henry 705, 1,086.
114. *Grewia tiliacifolia*, Vahl. Bankinsing; Henry 496, 557.
115. *Triumfetta pilosa*, Roth. Tamsui; Morse (Henry No. 1,472) Bankinsing; Henry 1,505.
116. *Triumfetta rhomboidea*, Jacq. Various collectors. Takow, Bankinsing, South Cape; Henry 491, 1,281.
117. *Corchorus acutangulus*, Lam. Tamsui; Morse (Henry No. 1,415). Takow; Playfair, Henry. Pescadores; Tashiro.
118. *Corchorus capsularis*, L. Takow plain, cultivated; Henry. The jute-plant. The fibre in Formosa is known as *ma-p'ei* (麻皮), which is usually translated in Customs Returns as *Hemp-skin*, an ill-sounding and inaccurate name, for which *Jute* ought to be substituted. This fibre is made into ropes and coarse sacking, the "*hemp-bags*" of Customs Returns.
- The Jute-plant is known at Wenchow as *lu-ma*, 綠麻, and at Ningpo as *huang-ma*, 黃麻.
- The word *Ma* in Chinese has a very extended signification, being given (1) to vegetable fibres of all kinds (Ramie, Jute, Flax, Hemp, Pine-apple fibre, etc.); (2) to oil-producing plants like *Sesame* and *Ricinus*; (3) to medicinal herbs with a certain kind of foliage. See *Notes on Economic Botany of China*, p. 64: *Customs, Special Series, No. 16*, 1,891: *Kew Bulletin*, 1,891.
119. *Corchorus olitorius*, L. Tamsui; Morse (Henry No. 1,461). Takow; Bankinsing; Henry 489.

A common weed, easily distinguished from the last by its long instead of globular fruit. Sometimes termed *Shan-ma* (山麻) in Formosa. My native collector of Bankinsing said that the young leaves were sometimes used as a vegetable; and that it was named *Tou-lu*, 斗鹿.

- 120. *Echinocarpus dasycarpus*, Benth. Bankinsing; Henry 1,654.
- 121. *Elaeocarpus decipiens*, Hemsley. Oldham 54(?) Bankinsing; Henry 508, 823, 1,483.
- 122. *Elaeocarpus lanceaefolius*, Roxb. Kelung; Ford. Bankinsing, South Cape; Henry 1,563, 1,990.
- 123. *Elaeocarpus* sp. South Cape; Henry 945.

The name *shih-nan*, 石楠, which appears on the list of woods, sent from Tamsui, in the Paris Exhibition Catalogue, seems to be applied to this genus in Formosa. The identifications given above, Nos. 121, 122, 123, are put forward with some doubt.

- 124. *Hiptage Madablota*, Gaert. Tamsui; Oldham. Takow; Playfair, Henry, Bankinsing, South Cape; Henry 216, 630.
- 125. *Tristellateia australasica*, A. Rich. South Cape; Henry 821, 598.
- 126. *Tribulus terrestris*, L. Takow; Playfair, Henry. Pescadores; Tashiro. This plant occurs on the sandy banks near the sea, and is the *Po-chi-li*, 白蒺藜, of the Gazetteer.
- 127. *Oxalis corniculata*, L. Bankinsing; Henry. Pescadores; Tashiro.
- 128. *Biophytum sensitivum*, D.C. Bankinsing; Henry. 1,549.
- 129. *Averrhoa Carambola*, L. Takow, cultivated; Playfair.
- 130. *Evodia meliaefolia*, Benth. South Cape, Bankinsing Henry 831, 932, 974, 1,296, 1,562.

131. *Evodia triphylla*, D.C. Tamsui; Oldham.
132. *Evodia Roxburghiana*, Benth. South Cape, Bankinsing; Henry 121, 1,262, 2,065.
133. *Zanthoxylum ailanthoides*, S. et Z. Tamsui; Oldham. Bankinsing, South Cape; Henry 1,353, 1,630.
134. *Zanthoxylum cuspidatum*, Champ. Tamsui; Oldham, Swinhoe. South Cape; Henry 334, 1,969.
135. *Zanthoxylum nitidum*, D.C. Tamsui; Oldham, Morse. Takow, South Cape, Bankinsing; Henry 205, 462, 1,655, 1,782, 2,050.
136. *Zanthoxylum emarginellum*, Miq. Kelung; Ford. See *Ann. of Bot.* IX. 149.
137. *Toddalia aculeata*, Pers. South Cape; Henry 378.
138. *Acronychia laurifolia*, Blume. Kelung; Ford.
139. *Glycosmis pentaphylla*, Correa. Bankinsing, South Cape; Henry 838, 1,226, 1,294, 1,487, 1,587, 1,614.
140. *Murraya exotica*, L. Oldham, Maries. Takow, South Cape; Bankinsing; Henry 978.
Known as *shih-ling*, 石枰; and used by the savages for making tobacco-pipes.
141. *Clausena Wampi*, Oliver. Bankinsing; Henry 42, 493.
Known as *Kuo-tzŭ-huang*, 菓子黃. The Foochow and Canton name is *Huang-p'i*, 黃皮.
142. *Clausena excavata*, Burm? South Cape; Bankinsing; Henry 401, 599.
143. *Atalantia buxifolia*, Oliver. West coast; Wilford. Takow: Playfair, Henry. Bankinsing; Henry 1,623.
A small shrub, used as a drug, and known as *Hao-k'o-tz'e*, 蛟殼刺. Mentioned in the *Gazeteer* as a cure for carbuncle.
144. *Atalantia* sp.? Bankinsing; Henry 843.

145. *Citrus aurantium*, L. Cultivated.

146. *Citrus decumana*, Lour. Takow, cultivated; Henry 318.

Doubtless other species of citrus are also cultivated.

See Mackay "*From Far Formosa*," pp. 62, 63: but I have not seen specimens.

147. *Brucea sumatrana*, Roxb. Takow; Playfair, Henry.

148. *Melia azedarach*, L. Oldham. South Cape: Henry 690, 1,281.

Known in Formosa in the *K'u-ling*, the characters for which are given in the *Paris Exhibition Catalogue* as 苦茶. The proper name, used on the mainland, is *K'u-lien*, 苦楝.

149. *Aglaia odorata*, Lour. Takow, Bankinsing: Henry, described in the *Gazetteer* as *shu-lan*, 樹蘭, used colloquially; also *ch'iu-lan*, 秋蘭.

The flowers are used on the mainland for scenting tea. From a likeness in the Chinese name, *Chloranthus inconspicuus*, Sw., the *Chu-lan*, 珠蘭, has been often erroneously mentioned as being used for the same purpose, an error set right long ago by Fortune. Fortune gives the following list of flowers used in the scenting of tea:—*Rose*; *Plum*; *Orange*; *Jasminum Sambac*, Ait; *Jasminum paniculatum*, Roxb; *Aglaia odorata*, Roxb: *Osmanthus fragrans*, Lour: *Gardenia florida*, L. In Custom Returns, "*Flower-seeds*," *lan-hua-mi*, 蘭花米, are the dried flowers of *aglaia odorata*, Roxb.

150. *Aglaia Roxburghiana*, Miq.? South Cape; Henry 260.

151. *Aglaia* sp. South Cape; Henry 602, 673, 1,298.

152. *Amoora Rohituka*, W. et A. South Cape; Henry 1,266.

153. *Ilex asprella*, Champ. Tamsui; Oldham. Kelung; Ford. South Cape, Bankinsing; Henry 221, 254, 444, 572, 1,334.

- 154.* *Ilex Formosana*, Maxim. Oldham. Bankinsing;
Henry 445, 880, 1,582.
155. *Ilex* sp. South Cape; Henry 938, 1,251, 1,991.
156. *Ilex* sp. South Cape; Henry 1,250.
157. *Ilex* sp. South Cape; Henry 1,811.
158. *Ilex rotunda*, Thunb. South Cape; Henry 929.
159. **Euonymus carnosus*, Hemsley. Kelung; Ford.
160. *Euonymus chinensis*, Lindl.? South Cape, Bankinsing; Henry 898, 2,051.
161. *Celastrus articulatus*, Thunb, var. Ape's Hill;
Henry 1,893.
162. *Celastrus diversifolius*, Hemsley. Takow; Playfair,
Henry. Bankinsing, South Cape; Henry 239,
308, 347, 1,081.
163. *Tripterygium Wilfordi*, Hook. f. Tamsui; Oldham.
Banks of river Sanar; Wilford.
- 164.* *Ventilago elegans*, Hemsley, Ann. of Bot. IX. 151.
Ape's Hill, Bankinsing; Henry 489.
165. *Ventilago leiocarpa*, Benth. Bankinsing; Henry
441.
166. *Paliurus ramosissimus*, Poir. North-East; Wilford.
Tamsui; Oldham, Morse (Henry No.
1,382).
167. *Zizyphus Jujuba*, L. Takow; Playfair, Henry.
Known as *Tsao*, 棗. This species bears scarcely
edible fruit.
168. *Berchemia lineata*, D. C. Tamsui; Oldham.
169. *Berchemia racemosa*, S. et Z. Tamsui; Oldham.
- 170.* *Rhamnus* sp. nova, near *R. javanica*, Miq. Takow;
Bankinsing; Henry 298, 1,172.
171. *Sageretia hamosa*, Brong. Oldham.
172. *Sageretia theezans*, Brong. Swinhoe. South Cape;
Henry 227.
173. *Colubrina asiatica*, Brong. South Cape; Henry
2,016.
174. *Vitis flexuosa*, Thunb. Bankinsing; Henry 400.

- 175.* *Vitis formosana*, Hemsley, *Ann. of Bot.* IX. 151:
Takow, Bankinsing; Henry 744.
176. *Vitis heterophylla*, Thunb. Takow; Playfair. Bank-
insing, South Cape; Henry 288, 454, 661.
177. *Vitis inconstans*, Miq. var.? Ape's Hill, Henry
1,836.
178. *Vitis japonica*, Thunb. Tamsui; Oldham. Ban-
kinsing; Henry 463.
Known as Wu-chao-lung, 五爪龍.
179. *Vitis labrusca*, L. Tamsui; Oldham. Takow;
Playfair, Henry.
180. *Vitis lanata*, Roxb. Kelung; Ford
181. *Vitis repens*, W. et A. Tamsui; Old. Takow;
Playfair, Henry.
- 182.* *Vitis umbellata*, Hemsley. Tamsui; Oldham.
183. *Vitis* sp. Tamsui; Oldham 78.
184. *Vitis* sp. Bankinsing; Henry 104, 174.
185. *Vitis* sp. Bankinsing; Henry 826.
186. *Leea sambucina*, Willd. Takow, Bankinsing, South
Cape; Henry 79, 632.
187. *Cardiospermum Halicacabum*, L. Various collectors.
Takow; Henry, Playfair. Known colloquially
and mentioned in the Gazetteer as *Tao-ti-ling*,
倒地椿.
188. *Koelreuteria bipinnata*, Franchet. Bankinsing;
Henry 1,594. This beautiful tree occurs also
in Yunnan (Tapintze, Mengtse) and in Hupeh
(mountains near Ichang).
189. *Sapindus Mukorossi*, Gaertn. Ape's Hill, South
Cape, Bankinsing; Henry 552. It fruits in
the shrubby state, but is common in the in-
terior as a large tree. Known colloquially, and
mentioned in the Gazetteer as *Huang-mu-shu*,
黃目樹, on the mainland and in Chinese books,
known as *Mu-huan-zte*, 木樨子.

The fruits contain Saponin in quantity; and at present there is a demand in England for this substance supplied by India. There is possibly an opening for a considerable export from China and Japan of the fruits of this *Sapindus* and of the various species of *Gleditschia* and *Gymnocladus*, which are all popularly grouped as "Soap-Trees."

190. *Nephelium Litchi*, Camb. Cultivated.
191. *Nephelium Longana*, Camb. Cultivated and also truly wild; Oldham, Henry.
192. *Acer oblongum*, Wall. South Cape; Henry 1,257.
193. *Dodnoea viscosa*, L. Takow; Playfair, Henry.
194. *Turpinia arguta*, Seem? Oldham. Bankinsing; Henry 128, 434, 564.

This may be a new species, or perhaps a simple-leaved state of *T. pomifera*. D.C.

195. *Sabia Swinhoei*, Hemsley. Swinhoe.
196. *Meliosma rigida*, S. et Z. Oldham. Kelung; Ford.
197. *Meliosma squamulata*, Hance? South Cape; Henry 1,989.
- 197-A* *Meliosma rhoifolia*, Maxim. Tamsui; Oldham.
198. *Rhus semi-alata*, Murr. var. Tamsui; Oldham. Bankinsing, Takow; Henry 348. Known as *Yen-fu-a*, 鹽欖. This tree is the source of Chinese galls (*wu-p'ei-tsu*); but in Formosa there is no trade in this important article.
199. *Rhus succedanea*. L. Bankinsing; Henry 62, 488. My native collector gave *Ch'i* (漆), the varnish tree, as the name of 62; and 488, which is an imperfect specimen, bearing galls, and doubtfully this species, he named *noan-a-sim*. The Paris Exhibition Catalogue gives *lan-hsin*, (爛心) as the name of a wood used for furniture, rollers of sugar-mills, etc.

200. *Rhus Toxicodendron*, L. South Cape; Henry 614, 2,005.

201. *Mangifera indica*, L. Takow, Bankinsing; Henry 817.

The Mango tree occurs both wild and cultivated in Formosa, the fruit of the wild kind being small and inedible. The mango is known in Formosa as *Shuain*, 榿; the Gazetteer says this character is not found in the dictionaries, and suggests that it may be a corruption of *Hsing*, 杏. The Gazetteer also says that the fruit was introduced by the Dutch, and gives additional names, 羨子, and 番蒜.

202. *Buchanania arborescens*, Blume? Takow; Playfair, Henry. South Cape, Bankinsing; Henry 815, 620.

A common tree, resembling the mango in foliage, whence the vulgar name, *shan-shuain*, 山榿.

203. *Crotalaria albida*, Heyre. Ape's Hill, Bankinsing; Playfair, Henry 448, 711, 1,551.

204. *Crotalaria calycina*, Schranck. Tamsui; Oldham. Takow, South Cape; Henry 877, 1,230.

205. *Crotalaria elliptica*, Roxb. South Cape; Henry 1,237.

206. *Crotalaria linifolia*, Linn. f. Takow; Playfair, Henry.

207. *Crotalaria sessiliflora*, L. Tamsui; Oldham.

208. *Crotalaria striata*, D. C. Bankinsing; Henry 397, 1,683.

209. *Crotalaria verrucosa*, L. Tamsui; Oldham. Takow; Swinhoe, Playfair, Henry.

210.* *Crotalaria similis*, Hemsley, *Ann. of Bot.* IX., 152. South Cape; Henry 252.

211. *Crotalaria* sp. Bankinsing, South Cape; Henry 1,233, 1,524.

212. *Crotalaria* sp. Bankinsing; Henry 1,520.

213. *Oreocarya denticulata*, Willd. Various collectors.
 214. *Lotus corniculatus*, L. Swinhoe.
 215. *Indigofera Anil*, L. Bankinsing, Takow plain,
 Henry 170, 1,799. Cultivated and known as
Ta-ch'ing, 大青.

The Gazetteer says *ch'ing-tien*, 靛靛, is used for dyeing; and that Formosan Indigo seeds, 靛子, are the best kind. Both this species and the following one are cultivated in Formosa for their indigo, and Indigo Seeds are an important article of export. Mr. Hosie in his Report on Formosa, 1893, says two kinds of indigo plant occur, *Polygonum orientale* and *chinense*. Neither of these two plants produce indigo; they are very common wild plants, never cultivated. The "*dyer's knot-weed*", *Polygonum tinctorium* L., is cultivated for its peculiar indigo in Manchuria and Japan; but there is no evidence of its occurrence in Formosa. Mr. Mackay, (From Far Formosa, p. 65), speaks of two kinds of indigo as occurring in the North of the island, one being a plant with leaves like a potato. This is certainly not an *Indigofera*, as he erroneously affirms; but in the absence of specimens I cannot even guess at what it is.

216. *Indigofera tinctoria*, L. Tamsui; Oldham, Morse.
 Takow, Bankinsing; Henry 1,669. Known as Hsiao-ch'ing, 小青. See remarks on the preceding species.
 217. *Indigofera hirsuta*, L. Oldham. Takow; Playfair, Henry.
 218. *Indigofera linifolia*, Retz. Takow; Playfair, Henry.
 219. *Indigofera decora* Ldl.? Bankinsing; Henry 696,
 1,652, 1,717.
 220. *Indigofera* sp. South Cape; Henry 254, 1,234.

221. *Tephrosia purpurea* Pers. Swinhoe, Wilford. Takow; Playfair, Henry. There are two varieties of this common plant, one with purple, the other with white flowers. They differ considerably in habit.

222. *Millettia reticulata*, Benth. Wilford, Oldham. Ape's Hill, Bankinsing, South Cape; Henry 68, 574, 894, 1,806.

223. *Sesbania aegyptiaca*, Pers. Tamsui; Oldham. Takow; Playfair, Henry 1,802.

Occurs in a half-wild state and is commonly cultivated; when about a foot high, the ground is ploughed and the plants turned into the soil as manure; also allowed to grow its full height and used then for fuel. Known as *Shan-ch'ing-tze*, 山青子, which appears in the Paris Exhibition Catalogue as "grass-seed" (!)

Leguminous plants possess the peculiarity of adding materially to the nitrogenous constituents of the soil; and the use of this plant as a manure is interesting in the light of recent scientific investigations.

224. *Astragalus sinicus*, L. Oldham, Swinhoe.

225. *Aeschynomene indica*, L. Oldham. Takow; Henry, Pescadores; Tashiro.

226. *Smithia sensitiva*, Art. Oldham. Bankinsing; Henry 1,521.

227. *Arachis hypogaea*, L. Takow, cultivated; Henry. Known as *Hua-sheng*, 花生, *Lo-kua-sheng*, 落花生. The Gazetteer also gives the names *T'u-tou*, 土荳, and *Ch'ang-shêng-kuo*, 長生菓; and quotes a popular saying concerning Formosans, "when they are not eating areca nut, they are chewing ground-nuts."

Used as food; oil from the seeds used for lighting; the refuse from the oil-press, ground-nut

cake, is much used as a manure for sugar-fields.

228. *Desmodium cephalotes*, Wall. Takow; Playfair, Henry. South Cape, Bankinsing; Heynr 847, 954, 1,219.
229. *Desmodium gangeticum*, D. C. Takow, Bankinsing; Henry 858.
230. *Desmodium gardneri*, Benth. Tamsui; Oldham; South Cape, Bankinsing; Henry 987, 1,664.
231. *Desmodium gracillimum*, Hemsley, Ann. of Bot. IX. 152. Ape's Hill; Henry 1,160.
232. *Desmodium gyrans*, D.C. Bankinsing; Henry 852.
233. *Desmodium gyroides*, D. C. South Cape; Henry 1,282.
234. *Desmodium heterophyllum*, D. C. Tamsui; Oldham. Takow; Henry 1894.
235. *Desmodium laburnifolium*, D. C. Tamsui; Oldham. Bankinsing; Henry 1,637.
236. *Desmodium latifolium*, D. C. Bankinsing; Henry 1,519.
237. *Desmodium laxiflorum*, D. C. Tamsui; Oldham. Takow, Bankinsing; Playfair, Henry 891, 1,176.
238. *Desmodium polycarpum*, D. C. Tamsui; Oldham. Takow, Bankinsing; Henry 853.
239. *Desmodium pulchellum*, Benth. Tamsui; Oldham. Takow; Playfair, Henry. Bankinsing, South Cape; Henry 8, 1,000, 1,286.
240. *Desmodium reniforme*, D. C. South Cape; Henry 1,248.
241. *Desmodium sinuatum*, Bl. Bankinsing; Henry 515.
242. *Desmodium triflorum*, D. C. Takow, Bankinsing; Playfair, Henry 881.

243. *Desmodium triquetrum*, D. C. Bankinsing, South Cape; Henry 336, 873.
244. *Desmodium* sp. Bankinsing; Henry 1,554.
245. *Pycnospora hedysaroides*, R. Br. Tamsui; Oldham. Bankinsing, South Cape; Henry 1,361, 1,534.
246. *Uraria crinita*, Desv. Bankinsing; Henry 836.
247. *Uraria hamosa*, Wall. Bankinsing; Henry 1,504.
248. *Uraria lagapoides*, D. C. Takow; Playfair, Henry. Bankinsing; Henry 837.
249. *Uraria picta*, Desv. Takow; Playfair, Henry.
250. *Lourea obcordata*, Desv. Oldham. Takow; Playfair, Henry 2,002.
251. *Alysicarpus bupleurifolius*, D. C. Takow; Playfair, Henry.
252. *Alysicarpus vaginalis*, D. C. Takow; Playfair, Henry 706, 1,157, 1,158.
253. *Lespedeza chinensis*, G. Don. Tamsui; Oldham.
254. *Lespedeza juncea*, Pers. Tamsui; Oldham, Morse (Henry No. 1,479). Bankinsing; Henry.
255. *Lespedeza striata*, H. et A. Oldham.
256. *Vicia sativa*, L. Bankinsing plain; Henry 186, 1,832.
257. *Pisum sativum*, L. Takow, cultivated; Henry.
The Gazetteer calls the Garden Pea *Ho-lan-tou*, 荷蘭豆; and says the pods and peas are more tender than the ordinary Chinese variety, *Wan-tou*, 晚豆.
258. *Abrus precatorius*, L. Takow; Playfair, Henry.
Common wild and known as *Chi-mu chu*, 鷄母珠
259. *Clitorea ternatea*, L. Takow; Playfair, Henry.
260. *Glycine hispida*, Maxim. Takow, South Cape; Henry 264. Cultivated; several varieties.
1. *Glycine Tabacina*, Benth. Takow; Henry 1,180.
262. *Glycine tomentosa*, Benth. Tamsui; Oldham. Takow spit; Playfair, Henry.

263. *Erythrina indica*, Lam. Takow; Playfair, Henry.

A thorny tree with brilliant red flowers, which appear before the leaves come forth. Known as *Tz'e tung*, 刺桐; and described under that name in the Gazetteer.

264. *Apios Fortunei*, Maxim. Tamsui; Oldham.

265. *Mucuna* sp. Bankinsing; Henry 490. My native collector says "A large climber, *hsüch-t'êng*, 血藤; root used as a drug."

266. *Galactia tenuiflora*, Willd. var.? Takow; Playfair 241, Henry 1,079. My 890 from Bankinsing is also referred with doubt to this species.

267. *Galactia* sp. Bankinsing; Henry 1,625.

268. *Pueraria Thunbergiana*, Benth. Oldham. Bankinsing, South Cape; Henry 510, 953.

Doesn't seem to be utilized in Formosa. This is the *Ko* (葛), put to many uses on the mainland. The root is a drug, named *Ko-kên*, 葛根, *Kan-ko*, 乾葛. The flowers, *Ko hua*, 葛花, are also used in medicine. The root is also made into an arrow-root like preparation, named *Ko-fên*, 葛粉. A cloth *Ko-pu*, 葛布 is made out of the fibre of the stems, in Japan, Corea, Kiangsi, etc. Mr. Geo. Jamieson, when Consul at Kiukiang, sent the following account to Kew:—

"The stems are cut into lengths and steeped in water with lime and wood-ashes for some days. The stems are then taken out and boiled. The bark is then stripped off and beaten with a mallet to cause the fibre to separate, then washed and beaten and washed again. Then carded, spun and woven into a fabric by the hand-loom. 40 lbs. of stem yield 1 lb. of fibre. The yellow colour is given to the cloth

by soaking it in rice-water. The manufacture is not very extensive. It is used for summer dresses: but does not compare with the grass-cloth made from Rhea fibre in fineness of texture, although it is said to be more durable.' Mr. Jamieson further makes reference to the starch made from the root of the plant.

A good deal of so-called *Ko-pu* is sold, according to Mr. Consul Bullock (in a communication to Kew), in Shanghai, which comes from Formosa and Canton: and as he says, this is very unlikely to be *Pueraria* cloth. The gauze-garment, yellowish in colour, worn by mandarins in the summer is said to be made of *Ko-pu*; but perhaps the term is used here generically to indicate any kind of grasscloth.

See *Notes on Economic Botany of China*, pp. 58, 68.

- 269. *Pueraria phaseoloides*, Benth. Bankinsing; Henry 1,503.
- 270. *Canavalia ensiformis*, D. C. Oldham. Bankinsing, cultivated, Henry 1,670. The *Tao-tou*.
- 271. *Canavalia obtusifolia*, D. C. Oldham. Takow; Playfair, Henry. A common sea-coast climber, with large red flowers.
- 272. *Canavalia* sp. Bankinsing; Henry 1,719.
- 273. *Phaseolus mungo*, L. Oldham. Bankinsing, South Cape, cultivated; Henry 361, 392.
- 274. *Phaseolus trilobrus*, Ait. ? Takow, a common wild plant; Playfair 234, Henry 1,123.
- 275. *Phaseolus* sp. South Cape; Henry 1,273.
- 276. *Vigna lutea*, A. Grey. Takow, sea-shore: Playfair, Henry.
- 277. *Vigna senensis*, Hassk. Cultivated.
- 278. *Vigna pilosa*, Baker. Takow; Playfair, Henry.

279. *Vigna sp.* Takow, banks of creeks, Bankinsing ; Henry 542, 1,181, 1,788.
280. *Pachyrhizus angulatus*, Rich. Naturalized at Takow ; Henry 1,093. Known in Kwangtung as *Fan-ko*, 番葛, and in Yunnan as *Ti-kua*, 地瓜 ; cultivated for its edible turnip-shaped root. This plant is not used as a drug, nor is fibre extracted from it. See *Notes on Economic Botany of China*, pp. 58, 68.
281. *Dolichos Lableb*, L. Oldham. Takow ; Henry. The Gazetteer says “ *Pien-tou*, 藕莖, Colloquially 肉莖, (pronounced *ma-tou* in Amoy dialect) Another name is *O-mei-tou*, 峨眉莖.”
282. *Dolichos trilobatus*, Willd. ? Ape's Hill, a prett ; wild climber ; Henry 1,082, 2,012.
283. *Cajanus indicus*, Spreng. Maries. Takow ; Henry. Occurs cultivated, and is known as *shu-tou*, 樹莖.
284. *Atylosia scarabaeoides*, Benth. Takow, Bankinsingy Playfair, Henry 1,539.
285. *Rhynchosia minima*, D. C. Takow, South Cape ; Playfair, Henry 1,271.
286. *Rhynchosia volubilis*, Lour. Tamsui ; Oldham, Morse. Ape's Hill, Takow plain, Bankinsing, South Cape : Henry 450, 665, 1,923.
287. *Rhynchosia sericea*, Span. South Cape ; Henry 1,270.
288. *Flemingia congesta*, Roxb. Tamsui ; Oldham, Morse Bankinsing ; Henry 13, 167.
289. *Flemingia strobilifera*, R. Br. Takow ; Playfair Henry.
- 290.* *Derris laxiflora*, Benth. North-west ; Wilford Bankinsing, South Cape : Henry 458, 565, 1,996.

291. *Derris uliginosa*, Benth. Takow, Bankinsing; Playfair. Henry 863, 1,049.
292. *Pongamia glabra*, Vent. Bankinsing, Takow Spit; Henry 398.
293. *Euchresta Horsfieldii*, Benn. North-East; Wilford. South Cape; Henry 1,228.
294. *Sophora tomentosa*, L. South Cape; Henry 692.
5. *Sophora* sp. Bankinsing; Henry 1,825.
296. *Caesalpinia Bonducella*, Fleming. Maries, Takow; Playfair, Henry.
297. *Caesalpinia nuga*, Ait. Tamsui; Oldham. Takow; Playfair, Henry. South Cape; Henry 300.
298. *Caesalpinia pulcherrima*, Sw. Takow, Bankinsing cultivated, Henry 330. Described in the Gazetteer as *fan-hu-t'ieh*, 番蝴蝶; and colloquially known as *mei-a-huei*, "butterfly flower." The character for *mei* is uncertain.
299. *Poinciana Regia*, Bojer. Anping, cultivated; Henry 1,898.
300. *Gleditschia* sp. South Cape; Henry 1,345, 2,066.
301. *Cassia mimosoides*, L. South Cape, Bankinsing; Henry 1,376, 1,548.
302. *Cassia occidentalis*, L. Takow, South Cape; Henry 301. Pescadores; Tashiro. Known as Yangchio-tou, 羊角豎.
303. *Cassia Tora*, L. Oldham. Takow; Playfair, Henry. South Cape; Henry 360.
304. *Bauhinia Championi*, Benth. Ape's Hill, Bankinsing; Henry 1,528.
305. *Entada scandens*, Benth. Bankinsing; Playfair. South Cape; Henry 951. The enormous pods of this remarkable climber are known to the savages as *ku-la-li*. Bretschneider found the seeds for sale (brought from Tibet?) in a

drug-shop in Peking under the name, *mu-yao-tze*, 木腰子.

806. *Mimosa pudica*, L. South Cape, cultivated(?); Henry 222. Perhaps the *Hsiu-ts'ao*, 羞草, of the Gazetteer.

807. *Leucaena glauca*, Benth. Takow, cultivated; Henry 709.

808. *Acacia Farnesiana*, Willd. Oldham, Takow; Playfair, Henry. Known colloquially and in the Gazetteer as *Tz'e-ch'iu*, 球刺. The Gazetteer gives additional names, 一番蘇木, 消息花, and 牛角花.

809. *Acacia Richii*, A. Gray. South-west; Swinhoe. Tamsui; Oldham. Kelung; Ford. Takow; Playfair, Henry. South Cape; Henry 774.

A large tree common throughout the island, both in the plain and in mountains. The wood is excellent, and is used for junk-frames, rudders, shafts of sugar-mills, etc. The name of the tree is written 松絲 or 相思, attempted renderings of the Formosan sound, *song-si*. I haven't identified it with any of the trees mentioned in the Gazetteer.

This tree, an outlier of the Australian region, is recorded from Formosa and the Fiji islands. I believe it also occurs on the mainland near Amoy; but whether truly wild, or planted by returned emigrants from Formosa, I cannot say.

810. *Acacia* sp. Bankinsing, a climber in the mountains; Henry 1,571.

811. *Albizia retusa*, Benth? South Cape; Henry 992.

812. *Albizia* sp. Bankinsing; Henry 1,574, 1,613.

Known as *yen-ch'ai*, 炎柴, a tree with hard wood.

813. *Pithecolobium dulce*, Benth. Tainan; Henry 1,804.
A name given for it was "*chin-kuei-shu*,
金龜樹, cultivated only (?), perhaps now
naturalized.
814. *Pithecolobium lucidum*, Benth. Oldham. Bankin-
sing; Henry 433, 1,657.
815. *Prunus persica*, Set. Z. Bankinsing; Henry, 113,
408.
816. *Prunus pogonostyla*, Maxim. Tamsui; Oldham.
- 817.* *Prunus xerocarpa*, Hemsley, Ann. of Bot, IX, 152.
Bankinsing mountains; Henry 47, 1,656,
1,658.
- 818.* *Spiraea* sp. Index Florae Sinensis, I. 228. Tam-
sui; Oldham 104.
819. *Rubus formosensis*, O. Kuntze. Kelung; Oldham.
820. *Rubus parvifolius*, L. Various collectors. Bankin-
sing; Henry 452.
821. *Rubus rosaeifolius*, Smith. Bankinsing; Henry 65.
822. *Rubus Swinhoei*, Hance. Tamsui; Oldham, Kelung;
Ford.
823. *Rubus Tagallus*, Cham. et Schl. Without locality;
Wilford. Tamsui; Oldham.
824. *Rubus* sp. Tamsui; Morse, Bankinsing, South
Cape; Henry 517, 1,256.
825. *Fragaria indica*, Andr. Tamsui; Oldham.
826. *Potentilla discolor*, Bunge. Tamsui; Oldham.
827. *Agrimonia Eupatoria*, L. Various collectors.
828. *Rosa bracteata*, Wall. North-East; Wilford. Tam-
sui; Oldham.
829. *Rosa indica*, L. Oldham. Bankinsing; Henry
1,609.
830. *Rosa laevigata*, Mich. Tamsui; Oldham, Swinhoe
831. *Rosa Luciae*, Fr. et Roch. Tamsui; Oldham.
832. *Rosa multiflora*, Thunb. Tamsui; Hancock. Tai-
nan; Playfair.

- 838.* *Photinia deflexa*, Hemsley, *Ann. of Bot.* IX, 153.
Takow, Bankinsing, South Cape; Henry 282,
498, 631, 1,026, 1,833.

A large tree, belonging to the section *Eriobotrya*,
with fruit of little or no flavour. Said to be
the *K'o* (柯) tree; a name occurring in the
Paris Exhibition Catalogue in the list of woods
from Formosa.

834. *Photinia variabilis*, Hemsley. Tamsui; Oldham,
Swinhoe. South Cape; Henry 670, 960,
1,285.
835. *Eriobotrya japonica*, Lindl. Cultivated.
836. *Raphiolepis indica*, Lindl. var.? South Cape; Henry
643, 1,828.
837. *Saxifraga sarmentosa*, Linn. f. Tamsui; Watters.
838. *Hydrangea chinensis*, Maxim. Tamsui; Oldham,
Morse. Bankinsing, South Cape; Henry 98,
379, 492, 590, 1,321, 1,451, 1,639, 1,716,
2,054.
839. *Hydrangea virens*, Lieb. Bankinsing; Henry 560.
840. *Pileostegia viburnoides*, Hk. f. et T. Tamsui;
Oldham.
841. *Deutzia scabra*, Thunb. Tamsui; Oldham. Kelung;
Ford. Ape's Hill; Playfair, Henry.
842. *Deutzia* near *D. pulchra*, Vidal. Bankinsing;
Henry 38, 477.
843. *Itea chinensis*, H. et A. Tamsui; Oldham. Kelun;
Ford.
- 844.* *Itea parviflora*, Hemsley. *Ann. of Bot.* IX. 154.
South Cape; Bankinsing; Henry 965, 1,263,
1,322, 1,486.
- My Bankinsing 145, 548, 550 are perhaps a broad-
leaved variety of this species.
845. *Bryophyllum calycinum*, Salisb. Maries. Takow;
Playfair. Bankinsing; Henry 359.

946.* *Kalanchoe gracilis*, Hance. South-west, Takow;
Swinhoe, Gregory, Playfair, Henry.

947. *Sedum formosanum*, N. E. Br. Tamsui; Oldham.
On rocks near the sea, Kelung; Ford.

948. *Sedum* sp. South Cape; Henry 954.

949. *Sedum* sp. Takow; Henry 1,186.

950. *Drosera Burmanni*, Vahl. Tamsui; Oldham.

951. *Distylium racemosum*, S. et Z. South Cape; Henry
980.

952. *Liquidambar formosana*, Hance. Tamsui; Watters.
Taiwan; Oldham. Bankinsing; Henry 425.

This is the *Fêng* (楓) tree, pronounced *Pung* or
Bung in Formosa. In Customs Trade Report,
1880, the wood is said to be used for building
rapid boats. For its use in making tea-chests
on the mainland, see *Notes on Economic
Botany of China*, p. 56.

953. *Kandelia Rhe-dii*, W. et A. Tamsui; Oldham.

954. *Bruguiera cylindrica*, Blume. Takow Lagoon;
Playfair, Henry.

955. *Rhizophora mucronata*, Lam. Takow lagoon; Play-
fair, Henry.

These two mangroves are known at Takow as
Wu-chio-li, 五趾梨; and their bark is not
utilized. The Gazetteer says the *ch'ieh-t'êng*
茄藤, is a tree growing on the sea-shore, used
as firewood, there being a red kind used for
dyeing nets. This name colloquially seems
rather to be given to *Avicennia officinalis*, L.,
another common tree on the edge of the Takow
lagoon, which, though not a true mangrove,
is associated with mangroves in brackish
swamps, and is sometimes named popularly
the *white mangrove*.

356. *Quisqualis indica*, L. South Cape, Bankinsing; Henry 558, 576.
- 357.* *Illigera* sp. Takow; Playfair, Henry 708. A common climber, known as Fèu-t'èng, 粉藤.
358. *Lumnitzera racemosa*, W. Takow; Playfair, Henry. A shrub with white flowers, occurring in swampy ground alongside the lagoon.
359. *Terminalia Catappa*, L. Takow spit, South Cape; Henry 917, 1,111.
360. *Psidium Guyava*, L. Naturalized everywhere in South Formosa; Playfair, Henry. Described in the Gazetteer under the names 番石榴 and 梨仔藪; the latter is in common use colloquially, pronounced Na-po.
361. *Rhodomyrtus tomentosa*, Hassk. South Cape; Henry 982, 1,366.
362. *Eugenia Jambos*, L. Oldham. Takow, Bankinsing; Henry 399-A., known as Lien-pu, 羅布, which is said to be a corruption of na³-mo, 南無.
363. *Eugenia malaccensis*, L. Takow plain, Bankinsing; Henry 399, 1,828.
364. *Eugenia* sp. South Cape; Henry 959, 1,312.
365. *Eugenia* sp. South Cape; Henry 226.
366. *Eugenia* sp. South Cape; Henry 1,711.
367. *Barringtonia racemosa*, D. C. South Cape; Henry 1,006.
368. *Barringtonia speciosa*, Forst. South Cape; Henry 327. A remarkable tree on the sea-shore with large leaves and great quadrangular fruits. The savages name it "ramudan."
369. *Osbeckia chinensis*, L. Wilford. Bankinsing, South Cape; Henry 989, 1,555. Said to be Chin-shih-liu 金石榴, and used as a drug.
370. *Melastoma candidum*, Don. Tamsui; Hancock, Perry, Oldham. South Cape, Bankinsing,

Kagee; Henry 179, 1,758. Known as *Shan-shih-liu*, 山石榴.

371. *Blastus cochinchinensis*, Lour. Wilford, Oldham.

372.* *Bredia Oldhami*, Hook. f. Tamsui; Oldham.
Kelung; Ford. Bankinsing, South Cape;
Henry 520, 1,222, 2,071.

373. *Medinilla* sp. South Cape; Henry 1,346.

374. *Astronia* sp. South Cape; Henry 658, 1,288.

375. *Ammania baccifera*, L. Takow, rice-fields; Henry 1,191.

376. *Ammania peploides*, Spreng. Bankinsing; Henry 814.

377. *Ammania rotundifolia*, Lam. Tamsui; Oldham.
Swinhoe. Takow plain; Henry 1,788.

378. *Pemphis acidula*, Forst. On rocks, sea-shore
Takow. South Cape; Playfair, Henry.

379. *Lagerstroemia subcostata*, Koehne. Tamsui; Oldham.
Kelung; Ford, Morse (Henry No. 1,736).
Takow, a shrub; Playfair, Henry. Bankinsing, South Cape, a tree 20 feet or more high;
Henry 43, 561, 958, 966, 1,220, 1,491.

This tree is the *Kiu-kung*, which is described in the Gazetteer under the characters 九芎 and 九荊. The Gazetteer says the wood is used for house-pillars, as it does not rot in the ground. It is one of the Tamsui woods in the Paris Exhibition Catalogue; and Mackay, *From Far Formosa*, p. 60, wrongly identifies the native name with another species of *Lagerstroemia*.

380. *Punica Granatum*, L. Cultivated; Henry.

381. *Jussiaea repens*, L. Oldham. Kelung; Ford.
Takow; Playfair.

382. *Jussiaea suffruticosa*, L. Tamsui; Oldham, Maries.

- Bankinsing, Takow, South Cape; Henry 286, 243, 986.
- 382-A. *Ludwigia parviflora*, Roxb. Bankinsing; Henry.
383. *Ludwigia prostrata*, Roxb. Takow, Bankinsing; Henry 1,730, 2,029.
384. *Trapa natans*, L. Takow plain, cultivated; Henry.
385. *Casearia* sp. Oldham 498.
386. *Casearia* sp. Bankinsing; Henry 440.
387. *Casearia* sp. Bankinsing; Henry 1,586.
388. *Homalium fagifolium*, Benth. Bankinsing; Henry 502.
389. *Carica Papaya*, L. Cultivated. Described in the Gazetteer under the names *Mu-kua*, 木瓜, and *Fan-mu-kua*, 番木瓜.
390. *Trichosanthes cucumeroides*, Maxim. Tamsui; Oldham. Takow; Playfair, Henry 1,593, 1,645, 1,913.
391. *Trichosanthes* sp. Ape's Hill; Playfair 204, Henry 1,952.
392. *Trichosanthes* sp. *Index Flora Sinensis*, I. pp. 313, 314. Tamsui; Oldham 133.
393. *Trichosanthes* sp. Takow, Bankinsing; Henry 1,513, 1,926.
394. *Trichosanthes multiloba*, Miq.? Takow; Henry 1,195, 1,927, 1,951.
395. *Gymnopetalum cochinchinense*, Kura. Takow; Playfair, Henry.
396. *Lagenaria vulgaris*, Ser. Cultivated.
397. *Momordica cochinchinensis*, Spreng. Oldham. Bankinsing, Takow, South Cape; Henry 802, 1,318, 1,653.
398. *Cucumis trigonus*, Roxb. Takow; Playfair.
399. *Cucumis melo*, L. Cultivated.
400. *Cucumis sativus*, L. Cultivated.
401. *Cucurbita maxima*, Duch. Cultivated.

402. *Citrullus vulgaris*, Schrad. Cultivated, Bankinsing; Henry 380.
403. *Zehneria umbellata*, Thwaites. Tamsui; Oldham. Hancock. Takow; Playfair, Henry. Occurs about Takow in two distinct forms.
404. *Zehneria mysorensis*, Arn. Tamsui; Oldham. Ape's Hill, South Cape, Bankinsing; Henry 209, 344, 1,161, 1,712.
405. *Bryonia laciniosa*, L. South Cape; Henry 324.
406. *Mukia scabrella*, Arn. Swinhoe. Tamsui; Oldham. Takow; Playfair, Henry. South Cape; Henry.
407. *Melothria odorata*, Hook. f. Bankinsing; Henry 1,729.
408. *Alsomitra clavigera*, Hook, f. Bankinsing; Henry 183, 1,556.
409. *Actinostemma lobatum*, Maxim? Bankinsing plain; Henry 1,666.
410. *Cucurbitacea* (unidentified). A large climber on Ape's Hill; Henry 779, 1,861.
411. *Begonia laciniata*, Roxb. North-west; Wilford. North of Tamsui; Hancock. Kelung; Ford, Bankinsing; Henry 110.
412. *Begonia sinensis*, A. D. C.? Tamsui; Morse (Henry Nos. 1,396, 1,459).
413. *Begonia* sp. Bankinsing, South Cape; Henry 930, 995, 1,275.
414. *Tetragonia expansa*, Ait. Pescadores; Tashiro.
415. *Sesuvium Portulacastrum*, L. Takow spit; Playfair, Henry. Pescadores; Tashiro.
416. *Mollugo Hirta*, Thunb. Takow; Playfair, Henry. Named *Hu-yao-huang*, 虎咬黃. This name appears in the Gazetteer.
417. *Mollugo spergula*, L. Bankinsing; Henry 442.
418. *Mollugo stricta*, L. South Cape, Bankinsing; Henry 883.

419. *Hydrocotyle asiatica*, L. Tamsui; Oldham. Pescadores; Tashiro. Takow, Bankinsing; Henry 453, 1,918.
420. *Hydrocotyle javanica*, Thunb. Bankinsing; Henry 1,542.
421. *Hydrocotyle rotundifolia*, Roxb. Kelung; Ford. Tamsui; Oldham, Watters. Takow plain; Henry 1,795, 2,028.
422. *Apium graveolens*, L. Cultivated, Takow; Henry.
423. *Foeniculum vulgare*, Gaert. South Cape; Henry.
424. *Oenanthe stolonifera*, D. C. Tamsui; Oldham.
425. *Oenanthe benghalensis*, B. et H. f. Tamsui; Oldham.
426. *Ligusticum acutilobum*, S. et Z. Kelung, sea-coast, Hancock.
427. *Peucedanum decursivum*, Maxim. Tamsui; Oldham, Gregory. Kelung; Ford.
428. *Coriandrum sativum*, L. Cultivated.
429. *Torilis anthriscus*, Gmel. Tamsui; Oldham.
430. *Umbellifera* undetermined. South Cape; Henry 600.
431. *Umbellifera* undetermined. South Cape; Henry 1,356.
432. *Umbellifera* undetermined. Takow, Bankinsing; Henry 385, 1,812.
433. *Aralia* sp. Bankinsing; Henry 15.
434. *Aralia spinosa*, L. Tamsui; Oldham.
435. *Acanthopanax acu* . . . *Scam?* Oldham. Tamsui; Morse (Henry Nos. 1,460, 1,516). South Cape; Henry 385, 1,707.
436. *Fatsia papyrifera*, B. et H. f. Bowring, Perry, Oldham.

The "rice-paper" plant, described in the Gazetteer under *T'ung ts'ao*, 通草; and said to be used as a drug as well as for making artificial

flowers, etc. The pith is of various qualities and sizes, known as, 草條, 草枝, and 草片. See Hancock, *Customs Trade Report, Tamsui, 1881*; Mackay, *From Far Formosa*, p. 57.

A large export of the Pith takes place from Szechuan as well as Formosa; but hitherto there has been no record of the plant occurring wild elsewhere than in Formosa, as my specimens sent to Kew from Hupeh were doubtful. I have recently found the plant wild in the mountains near Mengtze in Yunnan: and I have no doubt it will also be found in Szechwan.

437. *Panax fruticosus*, L. Bankinsing; Henry 494. Said by my native collector to be wild on the mountains; but this is doubtful. Often cultivated and named *t'u-san-ch'i*, 土三七, in Formosa. It has nothing to do with *San-ch'i*, the valuable drug cultivated in Kwangsi, the rhizome of a plant as yet unknown to botanists.
438. *Heptapleurum octophyllum*, Hance. Tamsui; Oldham, Morse (Henry Nos. 1,735, 1,780). Ape's Hill, Bankinsing, South Cape; Henry 17, 57-297, 1,858. Sent from Tamsui by Morse as "the 江敏 tree, wood used for making clog-soles on the mainland." In the Paris Exhibition Catalogue a wood named 江某 appears, The Bankinsing collector gave 土母 as the name of the tree. These different sets of characters all probably represent the same native name.
439. *Aucuba chinensis*, Benth. Bankinsing; Henry 140.
440. *Sambucus javanica*, Bl. Oldham. Kelung; Ford. Tamsui; Morse (Henry Nos. 1,449, 1,747). Bankinsing, South Cape; Henry, 214, 558, 921.

441. *Viburnum erosum*, Thunb. Tamsui; Oldham. Without locality; Swinhoe. Bankinsing, South Cape; Henry 161, 607, 612, 569, 652, 949, 1,272. The savages are said to make bows of this.
442. *Viburnum odoratissimum*, Ker. Bankinsing, South Cape; Henry 67, 75, 86, 189, 682, 2,053.
443. *Viburnum phlebotrichum*, S. et Z. Kelung; Ford.
444. *Lonicera affinis*, H. et A. var. *pubescens*, Maxim? Tamsui; Oldham.
445. *Lonicera japonica*, Thunb. Tamsui; Oldham, Hancock, Swinhoe.
446. *Lonicera macrantha*, D. C. Tamsui; Oldham.
447. *Sarcocephalus* sp. South Cape; Henry 328, 350.
448. *Uncaria florida*, Videl? South Cape; Henry 983.
449. *Nauclea* sp. South Cape; Henry 928.
450. *Adina racemosa*, Miq. Takow, South Cape; Henry 710.
451. *Wendlandia glabrata*, D. C. Tamsui; Oldham. South Cape; Henry 672, 924, 931, 950.
452. *Wendlandia paniculata*, D. C. Bankinsing; Henry 125. Native collector says "a tree 20 feet high with good wood, known as *hung-mu*, 紅木."
453. *Dentella repens*, Forst. Takow; Playfair, Henry.
454. *Hedyotis uncinella*, H. et A. Bankinsing, South Cape; Henry 111, 993.
455. *Hedyotis* sp. Bankinsing, South Cape; Henry 889, 1,215.
456. *Hedyotis* sp. South Cape; Henry 1,292.
457. *Hedyotis* sp. South Cape; Henry 2,007.
458. *Oldenlandia corymbosa*, L. Takow, Bankinsing; Playfair, Henry 396, 1,725, 1,911.
459. *Oldenlandia paniculata*, L. Takow; Playfair, Henry 777. Bankinsing, South Cape; Henry 869, 1,274.

460. *Ophiorrhiza japonica*, Bl. Tamsui; Oldham, Swinhoe, Morse (Henry No. 1,481.)
461. *Ophiorrhiza pumila*, Champ. Tamsui; Morse (Henry No. 1,466.)
462. *Mussaenda glabra*, H. et A. North-west; Perry. Tamsui; Oldham. Takow, Bankinsing; Playfair, Henry 567, 1,476.
463. *Webera attenuata*, Hk. f.? Bankinsing, South Cape; Henry 29, 89, 92, 519, 551, 948, 991, 1,217, 2,061.
464. *Randia dumetorum*, Lam. Tamsui; Oldham, Watters. Bankinsing; Henry 1,687.
465. *Randia sinensis*, Roem. et Sch. Ape's Hill, Bankinsing, South Cape; Henry 93, 172, 753, 1,891, 2,049.
466. *Gardenia florida*, L. Kelung; Oldham. Ape's Hill, Bankinsing, South Cape; Henry 568, 742, 1,227, 1,514, *Huang-chih*, 黄梔, fruit used to dye yellow.
467. *Diplospora viridiflora*, D. C. var.? Ape's Hill, South Cape, Bankinsing; Henry 317, 467, 634, 722, 933, 1,147, 1,602.
468. *Ixora chinensis*, Lam. Oldham. Bankinsing; Henry. The Gazetteer refers to it by the colloquial names, *shān-tan*, 山丹, and *hsien-tan*, 仙丹.
469. *Morinda umbellata*, L. Oldham. Takow; Playfair, Henry. South Cape; Henry 936.
470. *Psychotria elliptica*, Ker. Tamsui; Oldham, Maries.
471. *Psychotria serpens*, L. Bankinsing, South Cape; Henry 513, 653.
472. *Gephila reniformis*, D. Don. Bankinsing, Ape's Hill; Henry 1,531, 1,858.
473. *Lasianthus chinensis*, Benth. Oldham. Bankinsing, South Cape; Henry 162, 1,209.
474. *Lasianthus japonicus*, Miq. Bankinsing; Henry 106.

475. *Lasianthus Wallichii*, Wight. Tamsui; Oldham Bankinsing; Henry 112.
476. *Lasianthus* (? *Pedunculatæ*) *sp.* Bankinsing; Henry 1,682.
477. *Paederia tomentosa*, Bl. Oldham, Wilford. S. Cape, Bankinsing; Henry 987, 1,660.
478. *Serissa foetida*, Comm. Tamsui; Oldham.
479. *Spermacoce hispida*, L. Oldham. Takow Spit, Bankinsing; Playfair, Henry 49, 1,928.
480. *Spermacoce stricta*, Linn. Bankinsing; Henry 1,550.
481. *Patrinia villosa*, Juss. Tamsui; Morse, (Henry No. 1,749). Bankinsing; Henry 1,638.
482. *Vernonia Andersoni*, Clarke. Oldham.
483. *Vernonia chinensis*, Less. Tamsui; Oldham. Takow; Playfair, Henry 1,193.
484. *Vernonia cinerea*, Less. Pescadores; Tashiro. Takow; Playfair, Henry 1,051, 1,138, 1,758. Bankinsing; Henry 8.
- 485.* *Vernonia gratiosa*, Hance. Tamsui; Watters.
486. *Elephantopus scaber*, L. Takow; Playfair, Henry. Bankinsing; Henry 1,644.
487. *Elephantopus spicatus*, B. Juss. Takow; Playfair, Henry. S. Cape; Henry.
488. *Adenostemma viscosum*, Forst. Takow; Playfair, Henry.
489. *Ageratum conyzoides*, L. Bankinsing, Takow; Henry 424, 1,198 A.
490. *Eupatorium japonicum*, Thunb. Swinhoe, Wilford, Oldham. Ape's Hill; Playfair, Henry. S. Cape, Bankinsing; Henry 11, 36, 39, 182, 281, 579. *Shan-chu-lan*, 山竹蘭, was the name given for this. *Lan-ts'ao* 蘭草, in Chinese books indicates *Eupatorium*. Porter Smith's specimen in the Pharmaceutical Museum, London, labelled *lan-tsao* and *hsiang-ts'ao*, 香草, is, however, *Melilotus coerulea*, Lam.

491. *Eupatorium Lindleyanum*, D. C. Kelung; Ford.
Takow; Playfair, Henry.
492. *Eupatorium Reevesii*, Wall. S. Cape; Henry 683.
493. *Eupatorium* sp. (No. 6 of *Index Floræ Sinensis*, L.
405) Tamsui; Oldham. S. Cape; Henry
220.
494. *Eupatorium stoechadosmum*, Hance? Tamsui; Hancock.
495. *Mikania scandens*, Willd. Maries. Ape's Hill; Playfair; Henry. Bankinsing; Henry 1,642.
496. *Solidago Virga-urea*, L. Various collectors. S. Cape; Henry 1,708.
497. *Dichrocephala latifolia*, D. C. Tamsui; Oldham, Swinhoe. Bankinsing, S. Cape; Henry 340, 1,541, 1,714.
498. *Grangea maderaspatana*, Poir. Takow; Playfair, Henry.
499. *Aster baccharoides*, Steetz. Tamsui; Oldham, Morse, (Henry No. 1,445).
500. *Aster indicus*, L. Tamsui; Oldham. Kelung; Ford. Bankinsing; Henry 533.
- 501.* *Aster Oldhami*, Hemsley. Oldham. Kelung, sea-shore; Morse.
502. *Aster trinervius*, Roeb. Bankinsing; Henry 1,632.
503. *Erigeron linifolius*, L. Takow; Playfair, Henry. S. Cape, Bankinsing; Henry 289, 985, 1,588.
504. *Microglossa volubilis*, D. C. Ape's Hill, Bankinsing, S. Cape; Henry 118.
505. *Conyza aegyptiaca*, Ait. Tamsui; Oldham. Anping, Takow; Playfair, Henry 1,772, 1,779.
506. *Conyza viscidula*, Wall. Takow; Playfair, Henry 1,713.
507. *Conyza japonica*, Less. Tamsui; Oldham.
508. *Blumea balsamifera*, D. C. West Coast; Wilford. Takow; Playfair, Henry. Bankinsing, S. Cape; Henry 418, 621.

This is colloquially *ta-fêng-ts'ao*, 大楓草, or *ta-huang-ts'ao*, 大黃草; the former is mentioned in the Gazetteer. In Formosa no use is made of this plant, which in Hainan, is the source of the valuable Chinese drug, *Hi camphor* (艾粉; 艾片). For details of the method of manufacture, etc.,—see *Kew Bulletin* for November, 1895. See also *Hook l.c. Pl. 1,957*.

509. *Blumea chinensis*, D. C. Bankinsing; Henry 18, 109.
510. *Blumea hieracifolia*, D. C. Tamsui; Oldham.
511. *Blumea lacera*, D. C. Oldham. Takow, Bankinsing; Playfair, Henry 103, 230, 1,198, 1,738.
512. *Blumea laciniata*, D. C. Tamsui; Oldham. South, Maries. Takow; Playfair, Henry 1,810.
513. *Blumea membranacea*, D. C. Takow; Playfair.
514. *Blumea myriocephala*, D. C. Tamsui; Oldham. Ape's Hill, Bankinsing; Henry 181, 721.
515. *Blumea oxyodonta*, D. C.? Bankinsing, S. Cape; Henry 674, 1,727.
516. *Blumea sericans*, Hook. F. West Coast; Wilford.
517. *Blumea* sp. Takow; Henry 1,196, 1,942.
518. *Laggera alata*, Sch. Bip. Tamsui; Morse, (Henry No. 1,740). Bankinsing; Henry 1,611, 1,629.
519. *Pluchea indica*, L. Oldham. Takow; Playfair, Henry, S. Cape; Henry 302.
520. *Epaltes australis*, Less. Tamsui; Oldham.
521. *Gnaphalium indicum*, L. Oldham. S. Cape; Henry 288, 638.
522. *Gnaphalium multiceps*, Wall. Oldham. Bankinsing, S. Cape; Henry 482, 637. This plant is sometimes pounded and made into pastry with flour. Known in Fukien and Szechuan as *ching-ming-ts'ao*, 清明草.
523. *Gnaphalium luteo-album*, L. Takow; Playfair, Henry.

524. *Carpesium abrotanoides*, L. Oldham.
525. *Xanthium Strumarium*, L. Pescadores; Tashiro. Takow; Playfair, Henry. Colloquially is Yang-Tai-Lai, 羊帶來; in the Gazetteer is Tsang-esh-tze, 蒼耳子.
526. *Siegesbeckia orientalis*, L. Takow; Playfair, Henry. Pescadores; Tashiro. S. Cape; Henry 863, 618, 678.
527. *Eclipta alba*, Hassk. Takow; Playfair, Henry. Pescadores; Tashiro. Bankinsing, S. Cape, Henry 867, 862, 973, 1,278.
528. *Wedelia biflora*, D. C. Oldham. Takow; Playfair, Henry. Bankinsing; Henry 889.
529. *Wedelia calendulacea*, Less. Tamsui; Oldham, Swinhoe. Pescadores; Tashiro. Takow; Playfair, Henry. Bankinsing; Henry 857.
530. *Wedelia prostrata*, Hemsley. Tamsui; Oldham, Hancock.
531. *Tagetes patula* L. Takow, S. Cape; Henry 577. Naturalized.
532. *Spilanthes acinella*, L. Bankinsing, S. Cape; Henry 219, 655, 812.
533. *Bidens tripinnata*, L. Tamsui; Oldham.
534. *Bidens pilosa* L. Various collectors. Takow; Playfair, Henry. Bankinsing, S. Cape; Henry 108, 373.
535. *Glossogyne tenuifolia*, Cass. Tamsui; Oldham. South-West and Pescadores; Swinhoe. Takow; Playfair, Henry. Bankinsing; Henry 865.
536. *Chrysanthemum segetum*, L. Oldham. Takow; Henry. Cultivated and known as Tung-hao, 茼蒿.
537. *Myriogyne minuta*, Less. Tamsui; Watters. Takow Plain, S. Cape; Henry 277, 1,199, 1,833.
538. *Artemisia annua* L. Oldham.
539. *Artemisia capillaris* Thunb. Pescadores; Swinhoe. Tamsui; Morse, (Henry No. 1,448). Bankinsing; Henry 4, 1,597.

540. *Artemisia scoparia* W. et K. Tamsui; Oldham. S. Cape; Henry 240, 1,755.

The preceding two species are represented by imperfect specimens, and the determinations are doubtful, as regards my numbers.

541. *Artemisia vulgaris* L. Various collectors. Pescadores; Tashiro. Takow; Playfair, Henry. S. Cape; Henry 371.

542. *Gynura bicolor*, D. C. Tamsui; Oldham, Watter Ford. Bankinsing; Henry 485, 1,715. Watters informed Hance that this was largely grown as Tamsui as an esculent vegetable. I suspect some confusion here with *Chrysanthemum segetum*, L. (No. 536).

543. *Gynura ovalis*, D. C. Swinhoe. S. Cape, Bankinsing; Henry 325, 484, 2,048.

544. *Emilia sonchifolia*, D. C. Tamsui; Oldham. Pescadores; Tashiro. Ape's Hill; Henry 799, 1,200.

545. *Senecio Kaempferi*, D. C. Tamsui; Oldham, Morse. S. Cape; Henry 660, 1,964.

546. *Senecio scandens*, Ham. Bankinsing; Henry 1,643.

547. *Echinops dahuricus*, Fisch. Oldham.

548. *Onicus chinensis*, Maxim. Swinhoe. Bankinsing; Henry 1,498.

549. *Onicus japonicus*, Maxim. Tamsui; Oldham.

550. *Onicus brevicaulis*, A. Gray. Pescadores; Tashiro.

551. *Scorssurea affinis*, Spreng. Various collectors. Ape's Hill, S. Cape, Bankinsing; Henry 156, 619. Takao; Playfair.

552. *Crepis japonica*, Benth. Oldham. Takow; Playfair, Henry. Bankinsing, S. Cape; Henry 293.

553. *Taraxacum officinale*, Web. Various collectors.

554. *Lactuca brevirostris*, Champ. North-East; Wilford. Tamsui; Oldham, Morse, (Henry No. 1,453). Takow Plain, S. Cape, Bankinsing; Henry 195, 295, 1,122, 1,800.

555. *Lactuca debilis*, Maxim. Tamsui; Oldham. S. Cape; Henry 279, 313.
556. *Lactuca denticulata*, Maxim. Wilford. Tamsui; Morse (Henry No. 1,739). S. Cape; Henry.
557. *Lactuca formosana*, Maxim. Tamsui; Oldham.
558. *Lactuca repens*, Maxim. Pescadores; Tashiro. S. Cape; Henry 353.
559. *Lactuca scariola*, L. Cultivated.
560. *Lactuca sororia*, Miq. Kelung; Ford.
561. *Lactuca Thunbergiana*, Maxim. var. *Oldhami*. Tamsui, Oldham. North-East; Wilford. Bankinsing; Henry 107, 528.
562. *Lactuca versicolor*. Sch. Bip. Various collectors. Takow, S. Cape, Bankinsing; Henry 83, 1,339, 1,808. Tamsui; Morse, (Henry No. 1,745).
563. *Sonchus arvensis*, L. Various collectors. Takao, S. Cape, Bankinsing; Henry 1,340, 1,589, 1,770.
564. *Sonchus oleraceus*, L. Various collectors. Pescadores; Tashiro. Takow; Henry.
565. *Scaevola Koenigii*, Vahl. Pescadores; Tashiro; Takow; Playfair, Henry. S. Cape; Henry 908.
566. *Pratia begoniaefolia*, Lindl. North-East; Wilford. Tamsui; Oldham. Bankinsing; Henry 1,537.
567. *Lobelia raticans*, Thunb. North-East; Wilford.
568. *Lobelia sessilifolia*, Lamb. Bankinsing; Henry 1,721.
569. *Wahlenbergia gracilis*, A. D. C. Swinhoe. Tamsui; Oldham, Morse.
570. *Campanula axillaris*, Oliver. Tamsui; Morse, (Henry No. 1,458).
571. *Sphenoclea zeylanica*, Gaert. Tamsui; Oldham. Takow; Playfair, Henry. S. Cape; Henry 578.
572. *Adenophora verticillata* Fisch. Tamsui, Morse. S. Cape; Henry 988, 1,291, 1,364.
573. *Vaccinium bracteatum*, Thunb. var. S. Cape; Henry 591, 636, 947, 2,067.

- 574.* *Rhododendron formosanum*, Hemsley, in *Kew Bulletin*, 1895, p. 183. S. Cape; Henry 1,976.
- 575.* *Rhododendron Oldhami*, Maxim. Tamsui; Oldham. S. Cape; Henry 588.
576. *Statice Wrightii*, Hance. S. Cape; Henry 1,326.
577. *Plumbago zeylanica*, L. Takow; Playfair, Henry.
578. *Androsace saxifragæfolia*, Bunge. Swinhoe. Bankinsing; Henry.
579. *Lysimachia* sp. near *L. alternifolia*, Wall. Bankinsing; Henry 1,875. Named *Hsiang-ts'ao* 香草, and used for scenting hair-oil.
580. *Lysimachia decurrens*, Forst. Swinhoe. Tamsui; Oldham. Bankinsing; Henry 188.
581. *Lysimachia Fortunei*, Maxim. Wilford, Oldham.
582. *Lysimachia japonica*, Thunb. Tamsui; Oldham.
- 583.* *Lysimachia simulans*, Hemsley. Kelung; Ford.
584. *Lysimachia lineariloba*, H. et A. Tamsui; Oldham. Pescadores; Tashiro, Swinhoe. S. Cape; Henry, 641, 1,814.
585. *Anagallis arvensis*, L. Oldham. Pescadores; Tashiro.
586. *Maesa Doraena*, Br. Bankinsing; Henry 126 (*pro parte*).
587. *Maesa sinensis*, A. D. C. Oldham. Ape's Hill, S. Cape, Bankinsing; Henry 64, 126 (*pro parte*), 203, 461, 1,980.
588. *Myrsine capitellata*, Wall. Oldham.
589. *Ardisia chinensis*, Benth. Kelung; Ford.
590. *Ardisia crenata*, Sims? S. Cape, Bankinsing; Henry 85, 555, 909.
591. *Ardisia pentagona*, A. D. C. Oldham. S. Cape, Henry 698.
592. *Ardisia sieboldii*, Miq. Tamsui; Oldham, Watters, Morse (Henry No. 1,733). Harbour Island, Kelung; Ford. Ape's Hill, Bankinsing, S. Cape; Henry 414, 651, 667, 1,881.

593. *Ardisia* sp. Takow, Bankinsing, S. Cape.; Henry 54, 975, 1,074.
594. *Sideroxylon ferrugineum*, H. et A. Harbour Island, Kelung; Ford.
595. *Dichopsia* sp. S. Cape; Henry 341.
596. *Diospyros eriantha*, Champ. Ape's Hill, S. Cape, Bankinsing; Henry 26, 132, 566, 623, 827, 957, 1,527, 1,887. This is the *Wu-ts'ai*, 烏材; mentioned in the Paris Exhibition Catalogue of woods from Formosa; and said by the Gazetteer to be only of use as firewood. Natives report, however, that it is a good timber, growing to one foot in diameter. Only shrubs seen on Ape's Hill.
597. *Diospyros kaki*, L. F. Tamsui; Oldham.
- 598.* *Diospyros utilis*, Hemsley, Ann. of Bot. IX. 154, known as the *Mao-shih*, 毛柿, "hairy persimmon." The Gazetteer gives this name and also *fan-shih*, 番柿, "savage persimmon." The wood is reported to be good.
599. *Diospyros* sp. Bankinsing; Henry 842. Said to be the "*T'u-han-lan*, 土柑欖; tree 20 feet high; fruit edible."
600. *Symplocos crataegoides*, Ham. Tamsui; Oldham. S. Cape; Henry 635.
601. *Symplocos lancifolia*, S. et Z. ? Bankinsing; Henry 32, 127, 516, 1,508, 1,564.
602. *Symplocos myrtacea*, S. et Z. Tamsui; Oldham.
603. *Symplocos nervifolia*, S. et Z. Tamsui; Oldham. S. Cape; Henry 1,359.
604. *Symplocos sinica*, Ker. Maries, Swinhoe.
605. *Symplocos spicata*, Roxb. Oldham. S. Cape; Henry 1,314.
606. *Symplocos* sp. S. Cape; Henry 2,068.
607. *Symplocos* sp. S. Cape; Henry 1,315.

608. *Halesia* (f) *Fortunei*, *Hemsley*. Bankinsing, S. Cape; Henry 405, 1,578, 2,051.
609. *Styrax serrulatum*, *Roxb.* Oldham. Bankinsing, S. Cape; Henry 394, 554, 918, 2,063, 2,064.
610. *Styrax suberifolium*, *H. et A.* Tamsui; Oldham. Bankinsing, S. Cape; Henry 536, 592, 1,369, 1,579.
611. *Jasminum Sambac*, *Ait.* Takow, cultivated; Henry 1,882.
612. *Jasminum undulatum*, *Ker*, *Var. elegans*, *Hemsley*. West Coast; Wilford. Takow; Playfair. Henry. S. Cape; Henry 698. Described in the Gazetteer as *Su-hsing*, 素馨; but this name is generally given to the last species.
613. *Fraxinus* sp. Takao, S. Cape; Henry 926, 1,863.
614. *Fraxinus retusa*, *Champ.* S. Cape; Henry 201, 597.
615. *Osmanthus fragrans*. *Lour.* Kelung, cultivated; Oldham.
616. *Chionanthus retusus*, *Lindl.* Hance.
617. *Linociera* sp. Bankinsing; Henry 413, 824, 1,535, 1,686.
618. *Linociera* sp. S. Cape; Henry 941, 1,252.
619. *Ligustrum japonicum*, *Thunb.* Tamsui; Oldham. Kelung; Ford.
620. *Ligustrum* sp. Ape's Hill, a shrub; Henry 331.
621. *Rauwolfia chinensis*, *Hemsley*. Oldham. Takao; Playfair, Henry. Bankinsing, S. Cape; Henry 529.
622. *Cerbera Odollam*, *Gart.* Oldham. S. Cape; Henry 342, a sea-shore tree, which Mackay, *From Far Formosa* p. 27, styles the "wild mango."
623. *Vinca rosea*, *L.* Various Collectors. Takow Spit. Bankinsing; Henry 446. Named *Ssü-shih-chün*. 四時春; and mentioned in the Gazetteer.

624. *Plumieria acutifolia*, Poir. S. Cape, Bankinsing, cultivated; Henry 546. Named *Fan-hua* 番花, a name occurring in the Gazetteer.
625. *Tabernaemontana coronaria*, R. Br. Takow, Bankinsing, cultivated; Henry 545, 1,876. Known as *Ma-ti-hua*, 馬蹄花; Mackay has *Be-te* as the name for *T. Recurva*; but doubtless it is the same species which is cultivated at Tamsui as at Takow.
626. *Tabernaemontana Cumingiana* D. C. South Cape, Bankinsing; Henry 355. Known as *Shan* (山) *ma-ti-hua*.
627. *Parsonsia spiralis*, Wall. North-East Coast; Wilford. S. Cape; Henry 306, 615.
628. *Nerium odorum*, Soland. Takow, cultivated; Henry. The Gazetteer has *Chia-chu-t'ao*, 夾竹桃.
629. *Ecdysanthera rosea*, H. et. A. Oldham. Bankinsing; Henry 388, 838.
- 630.* *Anodendron Benthamianum*, Hemsley. Tamsui; Oldham, Morse. Bankinsing, S. Cape; Henry 185, 683, 801.
631. *Anodendron laeve*, Maxim. Tamsui; Oldham, Morse. Takow; Playfair, Henry. Bankinsing, S. Cape; Henry 19, 262.
632. *Trachelospermum jasminoides*. Lemaire. Oldham. Takao; Playfair. S. Cape; Henry 948, 1,301, 1,994.
633. *Cryptolepis elegans*, Wall. Tainan; Playfair. Takow; S. Cape; Henry 626, 1,706.
634. *Asclepias Curassavica*, L. Takow; Henry. A tropical American plant naturalized in parts of Formosa and of South China.
- 635.* *Cynanchum formosanum*, Hemsley. Tamsui; Oldham. Takow; Playfair, Henry.

636. *Gymnema affine*, Decne. Tamsui; Oldham, Morse.
(Henry No. 1,407). Takao; Playfair, Henry. S.
Cape; Henry 1,276. Named *Wu-hsüeh-teng*,
武靴藤.

This is the name of a drug exported from Amoy, in.
Customs List of medicines.

637. *Tylophora hispida*, Decne. Oldham. Takow, Bank-
insing, S. Cape; Henry 469, 1,162, 1,279.
These numbers may include more than one
species.
638. *Tylophora* sp. aff. *T. japonicae*, Miq. *Index Florae*
Sinensis, II. 113. South-west; Swinhoe.
639. *Marsdenia tinctoria*, R. Br. Tamsui; Oldham.
Takow; Playfair, Henry. Bankinsing; Henry
470.
640. *Pergularia pallida*, W. et A.? Bankinsing; Henry
861.
641. *Dregea volubilis* B. et H. F. Takow; Henry 1,945.
642. *Hoya carnosa*, R. Br. Kelung; Oldham. Ape's
Hill; Henry 723.
643. *Dischidia formosana*, Maxim. Oldham. S. Cape;
Henry 1,977.
644. *Mitrasacme alsinoides*, R. Br. Takow Plain; Henry
1,902.
645. *Buddleia asiatica*, Lour. Tamsui; Oldham. S.
Cape, Bankinsing; Henry 50, 200. Known as
Peh-pu ch'iang, 白埔姜 i.e. "white *Vitex*."
646. *Strychnos* sp. Bankinsing; Henry 1,662.
647. *Erythraea spicata*, Pers. Kelung, paddy-fields;
Ford. Probably a colonist.
648. *Crawfordia fasciculata*, Wall. Steere. Bankinsing;
Henry 1,603.
649. *Limnanthemum cristata*, Griseb. Tamsui; Oldham,
Hancock. Takow Plain, pools; Playfair,
Henry, 1,183.

650. *Limnanthemum indicum*, Thwaites. Takow Plain, lakes; Henry 1,622, 1,830.
651. *Hydrolea zeylanica*, Vahl. Bankinsing; Henry 1,649.
652. *Cordia Myxa*, L. Oldham. Takow; Playfair, Henry. Small trees; the fruit is cooked and eaten. In the Gazetteer *P'o-ku-tze*, 破故子; but colloquially known as *P'o-tze*, 破子 or *P'o-kuo-tze*, 破菓子.
653. *Ehretia acuminata* R. Br. Tamsui; Oldham. Takao, Baukinsing, S. Cape; Henry 443, 506, 952, 1,135, 1,136, 1,287, 1,778, 1,874.
654. *Ehretia macrophylla*, Wall. Tamsui; Oldham. Kelung; Ford. Takow, Bankinsing, S. Cape; Henry 190, 313, 323, 456.
- 655.* *Ehretia formosana*, Hemsley. West Coast, Wilford. South-West; Swinhoe. Takow; Playfair, Henry. Bankinsing, S. Cape; Henry 1,277.
- The preceding three species are known as *Han k'o*, 厚壳. In the Paris Exhibition catalogue this name appears as
656. *Ehretia buxifolia*, Roxb. West Coast; Wilford. Takow; Playfair, Henry.
657. *Ehretia longiflora*, Champ. Bankinsing; Henry 432, 509, 563.
- 658.* *Ehretia resinosa*, Hance. South-West Coast near Takow; Swinhoe.
659. *Coldenia procumbens*, L. Takow; Playfair, Henry.
660. *Tournefortia argentea*, Linn. f. Kelung; Oldham. S. Cape, a sea-coast small tree; Henry 322.
661. *Tournefortia sarmentosa*, Lam. Swinhoe, Maries. Takow; Playfair, Henry. S. Cape; Henry. Referred to in the Gazetteer as *Leng-fan-t'êng*, 冷飯藤; colloquially expressed as "*ching-pung-ting*."

662. *Heliotropium indicum*, L. Takow; Playfair, Henry. S. Cape; Henry 809. Colloquially is *Kou-i-tan*, which is represented by the characters 狗尾虫.
663. *Heliotropium strigosum*, Willd. Takow; Playfair, Henry 1,105, 1,790. S. Cape; Henry 956.
664. *Trichodesma Khasyana*, Clarke, var? S. Cape, Bankinsing; Henry 23, 286, 939, 1,239.
665. *Cynoglossum furcatum*, Wall. Ape's Hill; Henry 1,015.
666. *Cynoglossum micranthum*, Desf. Oldham. Tamsui; Morse (Henry No. 1744).
667. *Bothriospermum tenellum*, F. et May. Takow; Playfair. S. Cape; Henry 679.
- 668.* *Erycibe* sp. nova? Ape's Hill, S. Cape; Henry 1,859, 1,884, 2,072.
669. *Argyreia tiliaefolia*, Wight. S. Cape, Bankinsing; Henry 199 A. 1,610, 1,671.
- 670.* *Lettsonia* sp. nova? Ape's Hill, Bankinsing; Henry 775.
671. *Ipomoea Batatas*, Lam. Takow cultivated; Henry. The Gazetteer says "the *Fan-shu*, 番薯, was introduced into Fukien, whence it gradually spread to other parts, in the Wan-li reign (Ming dynasty); and it is suitable for planting in sandy, stony ground, etc. The *chu-shu* 朱薯, came from the Philippines and is cultivated every where in the mountains of Fukien and in the South. It was first planted in Changchow." In another place the Gazetteer calls the sweet potato *t'ien-shu*, 田薯; and describes two varieties, the white and red kinds. It also mentions the *Wen-lai-shu* 文來薯; i.e. a sweet potato introduced from the Malay (*Wen-lai*) Archipelago; and points out that while the sweet potato (*fan-shu*, *hung-shu*) came from abroad, the *shu* proper, the *Dioscorea*, or Yam, is a plant known in China from ancient

- times. Two varieties of sweet potato are cultivated in China. In Canton the better kind is called *fan-shu*; while the *hung-shu* (紅薯) is mostly used for feeding animals. These two varieties possibly correspond to the plants hitherto distinguished as *Ipomoea Batatas*, Lam., and *Ipomoea fastigiata*, Sweet; but as pointed out by Hemsley, — *Index florae sinensis* II, 157, 159, — they are forms of the same species, the latter being the original wild plant. In the hills around Ichang and in Yunnan at Mengtse, the sweet potato commonly cultivated is the latter form. My specimens from Takow are different, and seem to belong to the first variety.
672. *Ipomoea angustifolia*, Jacq. South-West; Wilford. Bankinsing; Henry 859.
673. *Ipomoea aquatica*, Forst. Takow, cultivated, and perhaps also wild: Henry 1,188, 1,189.
674. *Ipomoea biloba*, Forst. Tamsui; Oldham, Hancock. Pescadores; Tashiro. Takow; Playfair. S. Cape; Henry. Known as *Ma-an-t'eng*, 馬鞍藤.
675. *Ipomoea carnea*, R. Br. Takow; Playfair.
676. *Ipomoea chryseides*, Ker. Takow; Playfair, Henry.
677. *Ipomoea congesta*, R. Br. Oldham, Swinhoe. Bankinsing; Henry 101, 1,588.
678. *Ipomoea connata*, R. Br. Bankinsing; Henry 1,507, 1,675.
679. *Ipomoea digitata*, L. Takow Plain, Bankinsing; Henry 855, 1,125.
680. *Ipomoea Hardwickii*, Hemsley. South-West; Swinhoe. Takow; Playfair. Henry.
681. *Ipomoea hederacea*, Jacq. West Coast; Wilford. Tamsui; Oldham.
682. *Ipomoea muricata*, Jacq. Bankinsing; Henry 1,600.
683. *Ipomoea obscura*, Ker. South side; Maries. Takow; Playfair, Henry.

684. *Ipomoea palmata*, Forst. Takow, cultivated; Playfair.
685. *Ipomoea pes-tigridis*, L. Takao; Playfair, Henry. Bankinsing; Henry 864.
686. *Ipomoea linifolia*, Blume. Hills near Takow Lake; Henry 1,946.
687. *Ipomoea Quamoclit* L. Ape's Hill; Playfair, Henry. Bankinsing; Henry. An American plant perfectly naturalized in Formosa.
688. *Ipomoea sepiaria*, Koen. Takow Plain; Henry 1,954.
689. *Ipomoea Turpethum*, R. Br. Takow, Bankinsing; Henry 500, 1,624.
690. *Ipomoea* sp. Bankinsing; Henry 1,580.
691. *Hewittia bicolor*, Wight. S. Cape; Henry 287, 1,757.
692. *Convolvulus parviflorus* Vahl. South-West Coast; Wilford. Takow, Bankinsing; Playfair, Henry 1,179, 1,702.
693. *Evolvulus alsinoides*, L. Swinhoe, Playfair. Takow, S. Cape; Henry 1,091.
694. *Dichondra repens*, Forst. Oldham, Swinhoe. Pescadores; Tashiro.
695. *Capsicum minimum*, Roxb.? S. Cape, Bankinsing; Henry 356. Quite naturalized and known to the Pepohuans as *Shan-sin-i* 山新爾. *Sin-i* is perhaps a corruption of Chilli. Cultivated *Capsicum* is referred to in the Gazetteer as *Fan-chiang*, 番薑, a corruption of the mainland name Fanchiao 番椒.
696. *Lycopersicum esculentum*, Mill. Takow; Playfair, Henry. S. Cape; Henry. The tomato, quite naturalized in many parts of Formosa.
697. *Nicotiana Tabacum* L. Cultivated. Bankinsing; Henry Bretschneider, *Early Researches*, p. 104, makes the statement that *Nicotiana rustica*, L.

is universally smoked in China. So far as my experience goes this is not the case. The last species is only cultivated to a limited extent in mountainous districts of Hupeh and Szechuan. The common Tobacco plant of China is *Nicotiana Tabacum*.

- 698. *Solanum melongena*, L. Cultivated.
- 699. *Solanum bitorum* Lour. Kelung; Oldham. Bankinsing, S. Cape, Ape's Hill; Henry 307, 475, 758.
- 700. *Solanum dulcamara*, L. Various Collectors.
- 701. *Solanum ferox*, L. S. Cape, Bankinsing; Henry 358, 447. The Foochow name is said to be *Yang-pu-shih*, 羊不食.
- 702. *Solanum incanum*, L. Ape's Hill; Henry 795.
- 703. *Solanum indicum*, L. Oldham. Takow; Playfair. Henry. These two species are known as *Huang-shui-ch'iao*, 黄水蒿.
- 704. *Solanum nigrum*, L. Takow, S. Cape, Bankinsing; Henry 365.
- 705. *Solanum torvum*, Sw. Oldham. Takow, S. Cape; Henry 259, 746.
- 706. *Solanum verbascifolium*, L. Oldham. Takow; Playfair, Henry. Named *T'u-yen-yeh*, 土烟葉.
- 707. *Physalis angulata*, L. Wilford. Pescadores; Tashiro. Takow; Playfair, Henry 280, 1,146.
- 708. *Lycium chinense*, Miller. Takow Spit; Henry. Pescadores; Tashiro. A medicinal plant, wild in Central China, etc; but only occurring in cultivation in Formosa. Referred to in the Gazetteer as *Ti-ku-p'i*, 地骨皮, and *Kou-ch'i-tze*, 枸杞子.
- 709. *Datura alba*, Nees. Various localities; Wilford, Oldham, etc. Takow, Bankinsing, S. Cape; Henry. This is the *Nau-yang-hua*, 鬧羊花, of South China; and specimens from Hongkong.

in the Pharmaceutical Museum, London, thus labelled, belong to this plant. This Chinese name, however, in Hupeh is a synonym for *Yan-j-chih-chu*, 羊躑躅, *Rhododendron sinense*, Sw.; and Porter Smith's specimens in the same museum are the flower of a *Rhododendron*. An interesting article by Browne appears in the *Pharmaceutical Journal*, 1896, *Sept. 5*, describing the uses of *Datura Alba* by the Chinese as a soporific and a poison. As the result of an investigation into the chemistry of the plant, it is established that the alkaloid present is *Hyosine*, in a very pure state.

710. *Mazus rugosus*, Lour. Various collectors. Takow, Bankinsing; Henry 1,724, 2,032.
711. *Limnophila gratissima*, Bl. Bankinsing, Takow plain; Henry 1,344, 2,044.
712. *Limnophila* sp. Takow plain; Henry 1,849.
713. *Limnophila Roxburghii*, G. Don. Takow, Bankinsing; Henry 1,116, 1,552, 1,595.
714. *Limnophila sessiliflora*, Don. Bankinsing; Henry 1,726.
715. *Herpestis Monnieri*, H.B.K. Takow; Playfair, Henry 725.
716. *Torenia concolor*, Lindl. Wilford, Oldham, Hancock. S. Cape, Bankinsing; Henry 645, 811, 990, 1,576, 1,697.
717. *Torenia flava*, Hamilt. Bankinsing; Henry 1,577.
718. *Torenia peduncularis*, Bth. Bankinsing; Henry 1,506.
719. *Vandellia crustacea*, Bth. Oldham. Bankinsing, Takow; Henry 886, 1,075.
720. *Vandellia hirsuta*, Hamilt. Bankinsing; Henry 860.
721. *Vandellia pedunculata*, Bth. North-west; Swinhoe. Bankinsing; Henry 1,525.

722. *Vandellia scabra*, Bth. Bankinsing ; Henry 885.
723. *Bonnaya brachiata*, Lk. et Otto. Takow ; Playfair, Henry. 1,869 Bankinsing ; Henry 879.
724. *Bonnaya Veronicaefolia*, Spreng. Oldham, Playfair. Takow, Bankinsing ; Henry 884, 1,909, 2,019.
725. *Scoparia dulcis*, L. Takow plain ; Playfair. Bankinsing ; Henry 534.
- 726.* *Rehmannia Oldhami*, Hemsl., Ann. of Bot. IX. 154. Tamsui ; Oldham. Between Kinpaoli and Pachena, on dripping rocks ; Hancock. Ape's Hill, dry ledges of shaded cliffs ; Henry 811, 1,052.
- 727.* *Veronica murorum*, Maxim. Tamsui ; Oldham.
728. *Striga lutea*, Lour. Takow plain ; Henry 1,908.
729. *Striga Masuria*, Bth. Takow ; Henry 1,141.
730. *Centranthera Brunonia*, Wall. Oldham.
731. *Aeginetia indica*, Roxb. Oldham, Wilford. Tamsui ; Morse. Bankinsing, Takow ; Henry 2.
732. *Utricularia flexuosa*, Vahl. Takow plain ; Henry 1,069, 1,789, 1,806, 1,840.
733. *Utricularia orbiculata*, Wall. Oldham.
734. *Aescynanthus acuminatus*, Wall. ? S. Cape ; Henry 1,368.
735. *Lysionotus pauciflorus* Maxim. var. ? S. Cape ; Henry 1,343.
736. *Isanthera discolor*, Maxim. Oldham, Ford. Bankinsing ; Henry 845, 849, 1,540.
737. *Chireta anachoreta*, Hance. Bankinsing ; Henry 1,696 pro parte.
738. *Epithema* sp. Ape's Hill ; Henry 1,916.
739. *Boca Swinhoei*, Hance. South-west ; Swinhoe. Ape's Hill ; Playfair, Henry. S. Cape, Bankinsing ; Henry 897. Named *huo-ai*, 火艾, as the dried leaves are used as tinder. This plant also occurs in Borneo.

740. *Stereospermum sinicum*, Hance. Kelung; Ford. Tamsui; Morse (Henry No. 1,566 A). Bankinsing; Henry 1,566. Named *Shan-h'u-lien*, 山菩楝, as the leaves resemble those of the *Melia* tree.
741. *Sesamum indicum*, L. S. Cape; Takow, cultivated; Henry 370.
742. *Ebermaiera concinnula*, Hance. Swinhoe. Tamsui; Oldham. Henry; Ford.
743. *Hygrophila salicifolia*, Nees. Oldham. Takow plain; Playfair; Henry.
744. *Ruellia repens*, L. Takow, Bankinsing, S. Cape; Henry 770, 880, 1,156.
745. *Strobilanthes formosanus*, S. Moore. Tamsui; Oldham.
746. *Strobilanthes* sp. Takow; Henry 1,705, Playfair.
747. *Strobilanthes* sp. Tamsui; Morse (Henry No. 1,395).
748. *Crossandra undulaefolia*, Salisbury. Cultivated in Gardens; Henry 1,723.
749. *Codonacanthus pauciflorus*, Nees. Tamsui; Oldham. S. Cape, Bankinsing; Henry 317, 1,523, 1,986.
750. *Lepidagathis hyalina*, Nees. Tamsui; Morse (Henry No. 1,751). S. Cape, Bankinsing; Henry 102, 622, 1,754.
751. *Justicia gendarussa*, Linn. f. Tamsui; Oldham. Takow; Playfair. S. Cape; Bankinsing; Henry 155, 247.
752. *Justicia procumbens*, L. Various localities, Swinhoe, Wilford, Oldham. Lambay Isle, Bankinsing, S. Cape; Henry 136, 210, 972, 1,078. Pescadores; Tashiro.
753. *Justicia simplex*, Don. Takow plain; Henry 1,169, 2,045.
754. *Rungia* sp. Bankinsing; Henry 848, 1,522.
755. *Dictyoptera chinensis*, Nees. Oldham. Bankinsing, Ape's Hill; Henry 1,620, 1,953.

756. *Dicliptera crinita*, Nees? S. Cape, Bankinsing ; Henry 804, 1,515.
757. *Hypocistes Cumingiana*, B. et H. f. S. Coast ; Maries. Takow ; Playfair, Henry.
758. *Hypoestes purpurea*, K. Br. South-west ; Swinhoe. Ape's Hill ; Playfair, Henry. S. Cape, Bankinsing ; Henry 290, 582.
759. *Acanthacea* undetermined. S. Cape ; Henry 1,214.
760. *Acanthacea* undetermined. S. Cape ; Bankinsing ; Henry 1,224, 1,288, 1,651.
761. *Acanthacea* undetermined. Bankinsing ; Henry 1,608.
762. *Myoporum bontioides*, A. Gr. Anping ; Playfair, Henry. A sea-shore shrub with purple flowers.
763. *Bouchea marrubifolia*, Schauer. Pescadores ; Tashiro.
764. *Durantia Plumieri*, Jacq. Tamsui, cultivated ; Morse ; (Henry No. 1,405).
765. *Lippia nodiflora*, Michx. Various localities ; Wilford, Swinhoe, Takow ; Playfair, Henry. Bankinsing, S. Cape ; Henry. Pescadores ; Tashiro.
766. *Verbena officinalis*, L. Takow ; Playfair, Henry. S. Cape, Bankinsing ; Henry 284.
767. *Callicarpa formosana* Rolfe. Various localities ; Wilford, Watters, Oldham, Swinhoe. Tamsui ; Morse. Takow, S. Cape, Lambay Isle ; Henry 287, 616, 741, 1,048, 1,615. Known as *Shan pu-chiang*, 山薄姜.
768. **Callicarpa pilosissima*, Maxim. Oldham. South Cape ; Henry 267.
769. **Callicarpa* sp. nova. Bankinsing ; Henry 120.
770. *Callicarpa* sp. Bankinsing, Takow plain ; Henry 78, 435, 1,947.
771. *Premna formosana*, Maxim. Tamsui ; Oldham.
772. *Premna integrifolia*, L. Takow ; Playfair, Henry, 791.
773. *Premna vestita*, Schauer? Bankinsing, Takow ; Henry 381, 765.

774. *Premna* sp. South Cape; Henry 618.
775. *Vitex heterophylla*, Roxb. Tamsui; Oldham. Takow, S. Cape, Bankinsing; Henry 1,182, 1,258. Known as *Pu-chiang-mu*, 薄姜木.
776. *Vitex Negundo*, L. Takow; Playfair, Henry 1,142. S. Cape, Bankinsing; Henry 905. Known as *Pu-chiang-a*, 薄姜仔.
777. *Vitex trifolia*, L. var *unifoliata*. Various collectors. Takow; Henry. Pescadores; Tashiro. Common as a low creeper on sea-shore sands, and only occurring in the uni-foliolate variety, known as *Peh-pu-chiang*, 白蒲姜. The Gazetteer refers to *Vitex* under *Ching*, 荆, and says the vulgar name is *pu-ching*, 埔荆.
778. *Clerodendron cyrtophyllum*, Turcz. Oldham, More Morse (Henry No. 1,743). Ape's Hill, S. Cape, Bankinsing; Henry 1,562, 1,295, 1,470, 1,873.
779. *Clerodendron* sp. Bankinsing; Henry 28, 422.
780. *Clerodendron fragrans*, Vent. Tamsui; Oldham, Taiwan; Playfair. Bankinsing; Henry 393.
781. *Clerodendron inerme*, Gaert. Oldham, Maries. Takow; Playfair, Henry. S. Cape; Henry. Pescadores; Tashiro.
782. *Clerodendron paniculatum*, L. Various localities; Wilford, Oldham, Swinhoe, Ford, Playfair. Takow, Bankinsing; Henry 159, 617. The Gazetteer describes it as the 賴桐 or 船花 with leaves like the *t'ung* tree and numerous flowers red as fire, with blue seeds and a calyx which does not fall when the seeds are ripe. It gives the vulgar names *Chén-t'ung-hua*, 貞桐花, are *Lung-ch'uan-hua*, 龍船花, which as well as *Chut'ung-hua*, 朱桐花, are in common use.
783. *Clerodendron trichotomum*, Thunb. Tamsui; Oldham, A. Hance. S. Cape; Henry 291, 961.

784. *Caryopteris mastacanthus*, Schauer. Ape's Hill ; Playfair, Henry.
785. *Avicennia officinalis*, L. Takow lagoon ; Playfair, Henry. This tree, sometimes known as the "white mangrove," occurs on the shores of the lagoon mixed with the true mangroves and is known as *ch'ieh-t'êng-shu*, 茄藤樹. See No. 355.
786. *Ocimum sanctum*, L. Takow ; Playfair, Henry known as *chiu-ts'êng-t'a*, 九層塔 ; and is mentioned in the gazetteer under this name with the synonym. 蔡板草.
787. **Mesona procumbens*, Hemsley, *Ann. of Bot.* IX. 155. S. Cape ; Henry 1,317.
788. *Hyptis capitata* Jacq. Takow ; Playfair. Henry S. Cape, Bankinsing ; Henry 225.
789. *Hyptis suaveolens*, Poit. Takow ; Playfair. Henry S. Cape ; Henry 231. This fragrant herb is named *Shang-hsiang*, 山香, or *P'ai-ku-hsiao*, 狗骨梢 ; and the seeds are said to be used in making cakes. These two species of *Hyptis* are American plants, which are now thoroughly naturalized in Formosa.
790. **Pogostemon formosanus*, Oliver, *Hook. Ic. Plant.* 2440. Ape's Hill, Bankinsing ; Henry 70, 1,178.
791. *Dysophylla auricularia* Blume. West coast ; Wilford. Bankinsing ; Henry 541.
792. *Dysophylla verticillata*, Bth. Bankinsing ; Henry 1,665.
793. *Elsholtzia oldhami*, Hemsley. Oldham.
794. *Perilla nankinensis*, Decne. Cultivated.
795. *Perilla ocymoides*, L. Oldham. Cultivated for its oil.
796. *Mosla formosana*, Maxim. Tamsui ; Oldham.
797. *Calamintha chinensis*, Bth. Oldham.
798. *Calamintha umbrosa*, Bth. Tamsui ; Oldham.
799. *Salvia plebeia*, R. Br. Various collectors. Bankinsing, Takow ; Henry 547, 1,786.

800. *Salvia scapiformis*, Hance. Kelung ; Oldham. Ford found near Tamsui a variety with some leaves distinctly trifoliate, the lateral leaflets being much smaller and reniform.
801. *Nepeta glechoma*, Benth. Tamsui district ; Watters.
802. *Scutellaria indica*, L. Various collectors. S. Cape ; Henry 2,078.
803. *Scutellaria luzonica*, Rolfe. Takow ; Playfair, Henry.
804. *Scutellaria rivularis*, Wall. Tamsui ; Oldham, Swinhoe. Takow ; Playfair. Bankinsing plain ; Henry 1,728.
805. *Prunella vulgaris*, L. Various collectors.
806. *Anisomeles orata*, R. Br. Oldham. Takow ; Playfair, Henry. S. Cape, Bankinsing ; Henry 228, 642.
807. *Stachys arvensis*, L. In potato fields, introduced ; Oldham.
808. *Stachys oblongifolia*, Wall. Bankinsing ; Henry 540.
809. *Leonurus sibiricus*, L. Various collectors. S. Cape ; Henry. Known as *i-mu-ts'ao*, 益母草, and mentioned in the Gazetteer.
810. *Lamium amplexicaule*, L. Tamsui ; Oldham.
811. *Lamium chinense*, Benth, var ? *parviflora*, Hemsley, Oldham. This has ovate-rotundate leaves, much smaller than the type.
812. *Leucas mollissima*, Wall. Tamsui ; Swinhoe, Maries, Oldham. Ape's Hill ; Playfair, Henry. S. Cape, Bankinsing ; Henry 169, 1,235.
813. *Teucrium stolonifera*, Roxb. Oldham. Tamsui ; Morse (Henry No. 1,753).
814. *Ajuga bracteosa*, Wall. Yoyama archipelago.
815. *Labiata* undetermined. Bankinsing ; Henry 82. This is known as *Hsien-ts'ao*, 仙草, and is used for making a cooling drink in summer. An herb of this name is imported in a dried state from the mainland, and is used for making jellies.

816. *Labiata* undetermined. S. Cape; Henry 362.
817. *Labiata* undetermined. Takow, Bankinsing; Henry 544, 1,194.
818. *Labiata* undetermined. Bankinsing; Henry 1,565.
819. *Labiata* undetermined. Bankinsing; Henry 1,631.
820. *Labiata* undetermined. Bankinsing; Henry 1,646.
821. *Labiata* undetermined. Bankinsing; Henry 1,668.
822. *Labiata* undetermined. Bankinsing; Henry 1,674.
823. *Plantago major*, L. Various collectors.
824. *Boerhavia repens*, L. Wilford. Pescadores; Takow; Playfair, Henry.
825. *Pisonia aculeata*, L. A. Hance. Takow; Playfair Henry. Bankinsing; Henry 87. The flower-buds are said to be used for blackening the teeth.
826. *Pisonia Brunoniana*, Endl. Bankinsing, S. Cape; Henry 329.
827. *Pisonia inermis*, Forst. Bankinsing; Henry 137, 1,596. The native collector names this *Shiu tung-kua*, 水冬瓜. In different parts of China this name is applied to different trees. See *Notes on Economic Botany of China*, p. 55. In Yunnan a large-leaved species of *Alnus* is so-called. It is perhaps the most common tree in the lower mountains of Eastern Yunnan, often forming large woods and much used for firewood. It does not seem however to be the tree figured under this Chinese name in *Chih-Wu-Ming*, xxxvi, 26.
828. *Mirabilis jalapa*, L. Takow, a colonist; Henry.
829. *Bougainvillea spectabilis*, W. Takow, cultivated; Henry 735.
830. *Deeringia celosoides*, R. Br. Takow; Playfair, Henry. Bankinsing, S. Cape: Henry 233, 697.
831. *Deeringia indica*, Zoll. Ape's Hill, Bankinsing, S. Cape; Henry 80, 191, 305, 383, 639, 934, 1,892.

882. *Celosia argentea*, L. Various collectors. Pescadores ; Tashiro. Bankinsing, Takow ; Henry 866.
883. *Amarantus gangeticus*, L. S. Cape ; Henry 206.
884. *Amarantus spinosus*, L. Tamsui ; Oldham. S. Cape ; Henry 333, 662. Known as *Tz'u-han*, 刺莧 ; and the Gazetteer says potash is made from it.
885. *Amarantus viridis*, L. Tamsui ; Oldham. Pescadores ; Tashiro. Takow ; Playfair, Henry 274.
886. *Cyathula prostrata*, Bl. Takow ; Playfair, Henry-S. Cape ; Henry 207.
887. *Aerua scandens*, Wall. Bankinsing ; Henry 1,619.
888. *Achyranthes aspera*, L. Oldham. Pescadores ; Tashiro. Takow, Bankinsing, S. Cape ; Henry 438, 627. Tamsui ; Morse (Henry No. 1,752). Known colloquially as *Cho-pi-ts'ao*, 橡鼻草 ; and mentioned in the Gazetteer as a medicinal simple.
889. *Achyranthes bidentata*, Bl. Bankinsing ; Henry 1,544.
840. *Alternanthera nodiflora*, R. Br. Tamsui ; Oldham. Bankinsing ; Henry 447.
841. *Alternanthera sessilis*, R. Br. Tamsui ; Oldham, Morse. Takow, S. Cape, Bankinsing ; Henry 255, 275, 810, 1,050, 1,746, 2,062.
842. *Gomphrena globosa*, L. S. Cape, cultivated ; Henry.
843. *Chenopodium acuminatum*, Willd. Oldham. Pescadores ; Tashiro. Takow ; Henry 1,061.
844. *Chenopodium album*, L. Various collectors. S. Cape ; Henry 629.
845. *Chenopodium ambrosioides*, L. Tamsui ; Oldham.
846. *Chenopodium ficifolium*, Smith. Takow ; Playfair, Henry. S. Cape ; Henry 332.
847. *Beta vulgaris*, L. Cultivated. The Gazetteer gives the names.
848. *Spinacia oleracea*, L. Cultivated. The Gazetteer gives the names 頗菜 and 赤根菜.

849. *Atriplex nummularia*, Ldl. Taiwan ; Wilford.
Pescadores ; A. Hance.
850. *Atriplex arenaria*, Nutt. Pescadores ; Tashiro.
851. *Suaeda nudiflora*, Moq. Takow ; Playfair, Henry
1,025.
852. *Basella rubra*, L. Takow ; Playfair. S. Cape ;
Henry 346.
853. *Phytolacca acinosa*, Roxb. Kelung ; Wilford.
854. *Polygonum barbatum*, L. Tamsui ; Oldham.
855. *Polygonum fagopyrum*, L. Cultivated.
856. *Polygonum chinense*, L. Various collectors. Tam-
sui ; Morse (Henry No. 1,452). Kagee, Bankin-
sing, S. Cape ; Henry 299, 412, 628, 809.
857. *Polygonum hydropiper*, L. Bankinsing ; Henry 88.
858. *Polygonum lanigerum*, R. Br. Oldham, Wilford.
S. Cape ; Henry 349, 588. Hemsley describes
a variety, *cristatum*, collected by Oldham.
859. *Polygonum lapathifolium*, L. Oldham. S. Cape,
Bankinsing, Takow ; Henry 271, 349 A,
1,192.
860. *Polygonum multiflorum*, Thunb. Kelung ; Oldham,
Ford ; Tamsui ; Morse (Henry No. 1742). Ape's
Hill, Baukingsing ; Henry.
861. *Polygonum orientale*, L. Various collectors. Takow
plain ; Henry.
862. *Polygonum pedunculare*, Wall. Kelung ; Oldham.
Takow ; Henry 2,027.
863. *Polygonum perfoliatum*, L. Tamsui ; Oldham.
864. *Polygonum plebeium*, R. Br. Oldham. Takow, S.
Cape ; Henry 1,756.
865. *Polygonum posumbu*, Hamilt. Oldham.
866. *Polygonum sagittatum*, L. Oldham.
867. *Polygonum senticosum*, Franch. et Sav. Oldham,
Swinhoe. Bankinsing ; Henry 457.
868. *Polygonum serrulatum*, Lagasca. Various collectors.
Takow, S. Cape ; Henry 1121, 1286.

869. *Polygonum Thunbergii*, S. et Z. Oldham.
870. *Polygonum Sp.* Takow; Henry 1,168, 1,771.
871. *Polygonum Sp.* Ape's hill, a large climbing shrub, only seen in barren state; Henry 2,026.
872. *Rumex acetosa*, L. Oldham.
873. *Rumex crispus*, L. Tamsui; Oldham.
874. *Rumex dentatus*, L. Tamsui; Oldham.
875. *Asarum Thunbergii*, Al. Br. Oldham. See Maxim., *Mel. Biol. VIII*, p. 404.
876. *Aristolochia sp.* Bankinsing; Henry 402. Cultivated as a medicinal simple, named 三脚紫.
877. *Aristolochia sp.* Ape's Hill; Henry 719.
878. *Saururus Loureirii*, Decne. Wilford, Oldham. Bankinsing, Takow; Henry.
879. *Houttuynia cordata*, Thunb. Tamsui; Wilford, Oldham, Morse.
880. *Piper betle*, L. Cultivated. The Gazetteer refers to this as 扶留藤 or 蔘藤; and says it is wrongly called in the colloquial 荖藤. The Gazetteer adds that in Yunnan *lu-tze*, 蘆子, the fruit of the Betel Pepper is used, and that it is not certain if this character *lu* is the same as *lon*, 蔘.
881. *Piper Chaba*, Hunter. South Cape; Henry 2,006.
882. *Piper futokadsura*, Sieb. Tamsui; Oldham. Takow; Playfair, Henry 716, 1,134, 1,870, 1,886. Lambay Isle, Bankinsing; Henry 803, 1526, 1581.
883. *Piper subpeltatum*, Willd. S. Cape, Bankinsing; Henry 480, 700.
884. **Piper sp. nova?* of *Index Florae Sinensis*, II. p. 114. Ape's Hill; Playfair.
885. *Piper sp.* near *Piper Hancei*, Maxim. S. Cape; Henry 1,997.
886. *Peperomia dindygolensis* Miq. Takow, S. Cape, Bankinsing; Henry 481, 580, 1,027.

887. *Chloranthus brachystachys*, Blume. Oldham. S. Cape, Bankinsing; Henry 1,580, 1,965.
888. **Chloranthus Oldhami*, Solms. Tamsui; Oldham. S. Cape; Henry 649.
889. *Beilschmiedia* sp. S. Cape. Henry 1,001, 1,260, 1,264.
890. *Cinnamomum camphora*, Nees et Eberm. Various localities; Oldham, Swinhoe.

Bankinsing, S. Cape; Henry 251, 421, 640, 648. The camphor tree is indigenous to Japan, Formosa, and the Central and Southern provinces of China. In China the tree has been known since ancient times for its excellent wood; but camphor until of late years was apparently never manufactured on the mainland of China. The camphor anciently used was undoubtedly Malay camphor, the product of another tree; and when and at whose instigation camphor began to be manufactured in Formosa is not known. For some years a small quantity of camphor was made in the Chekiang province; and, judging from the Customs returns, Fukien has also been engaged in the manufacture during the last four or five years. A considerable industry in camphor is springing up in the province of Kwangsi, Pakhoi exporting 600 piculs in 1895.

For an account of the vicissitudes of the camphor trade in Formosa, see the Chinese Customs "*Decennial Reports*" for 1882-1891, pp. 439, 466.

Camphor is adulterated in Formosa with a glue obtained from a creeper; but I have seen no specimens which would enable me to determine what this creeper is.

891. *Cinnamomum* sp. S. Cape; Henry 1,330.

892. *Cinnamomum pedunculatum*, Nees. Bankinsing; Henry 451. The root-bark is fragrant and known as *t'u-jou-kuei*, 土肉桂.
893. *Machilus* sp. Perhaps a large-leaved variety of the next species. S. Cape, Bankinsing; Henry 119, 197, 663. This is the *hsiu-lang*, 蕭朗, of the Gazetteer, which describes it as an enormous tree, with excellent wood, occurring in the depths of the mountains. The Paris Exhibition catalogue calls it the *hsiu-lan-mu* 蕭蘭木. Mackay, p. 55, names it the *Shau-lan*. It is known colloquially as the *Shuai-a-nan*, 榎仔楠 and is one of the trees known to the Chinese as *nan-mu*, 楠木, called *lan-a* in Formosan speech. It may be styled Formosan Laurel. The identification of *nan-mu* with cedar is a common error in foreign books.
894. *Machilus Thunbergii*, S. et Z. Tamsui; Oldham. Kelung; Ford. Bankinsing, S. Cape; Henry 181, 208, 423, 671. Known colloquially as *Lama* wood (楠仔木), and referred to in the Paris Exhibition Catalogue. See No. 1,114.
895. *Machilus* sp. Perhaps a variety of the last species. S. Cape; Henry 611, 664, 2 055.
896. *Actinodaphne* sp. Bankinsing; Henry 1,559.
897. *Litsoea* sp. S. Cape; Henry 204, 940.
898. *Litsoea* sp. Bankinsing; Henry 153, 1,484. Known as the small-leaved *Huang-hsin-a-shu* 黃心仔樹.
899. *Litsoea* sp. Bankinsing; Henry 34, 73, 460, 1,501. The large-leaved *Huang-hsin-a-shu*.
900. *Litsoea lancifolia*, Villar. Oldham.
901. *Litsoea glauca*, Sieb. Bankinsing; Henry 391, 1,585.
902. *Lindera citriodora*, Hemsley, var. Bankinsing; Henry 114. Known as *Shan-hu-chiao*, 山胡椒, a name given to other species on the mainland.

See *Notes on Economic Botany of China*,
p. 40.

903. **Lindera* (?) *Oldhami*, *Hemsley*. Tamsui; Oldham.
Kelung; Ford.
904. *Lindera* sp. S. Cape; Henry 1,328.
905. *Cassytha filiformis*, *L.* Tamsui; Oldham. Takow;
Playfair. Bankinsing; Henry 1,567. Known
as *Wu-ken-ts'ao*, 無根草.
906. *Helicia cochinchinensis*, *Lour.* Bankinsing; Henry
819.
907. **Helicia Formosana*, *Hemsley*, *Index Fl. Sin.* II. 394
and *Ann. of Bot.* IX. p. 156, *cum fig.*
North-east; Wilford. Kelung; Ford. Ban-
kinsing, S. Cape; Henry 511, 805, 1,225.
Known as the *Shan-p'i-p'a*, 山枇杷.
908. *Daphne odora*, *Thunb.* Tamsui; Watters.
909. *Wikstroemia indica*, *C. A. Mey.* Tamsui; Oldham,
Swinhoe. Takow, Lambay Isle, Bankinsing;
Henry 10, 1,131, 1,197 Known as *Pu-lun*, 薄崙;
and root used as a drug. In the *Customs List*
of *Medicines*, *Pu-lun-t'ou* (薄崙頭) occurs as a
drug exported from Amoy.
- This shrub is used for making paper and
paper blankets at Nan-ning-fu in Kwangsi, ac-
cording to specimens sent to Kew by Playfair
and Wenyon.
- Wikstroemia nutans*, *Champ.*, is recorded
from Takow in *Index Fl. Sin.* ii. p. 400; but
Playfair's specimen there referred to is *W.*
indica.
910. *Elaeagnus Oldhami*, *Miq.* Near Tamsui; Oldham.
Kagee; Henry 364.
911. *Elaeagnus pungens*, *Thunb.* Tamsui; Oldham.
912. *Loranthus yadoriki*, *S. et Z.* (?). Bankinsing;
Henry 58.
913. *Loranthus* sp. S. Cape; Henry 979, 1,303.

914. *Viscum articulatum*, Burm. F. Bankinsing; Henry 59.
915. *Champerea Griffithiana*, Planch. Takow; Playfair, Henry. Bankinsing, S. Cape; Henry 46, 129, 141, 303, 1,678. A small tree known colloquially as *Shan-kan*, 山柑. This name is given in the Gazetteer as a synonym of *ch'i-li-hsiang* (see No. 57 in this List); but the description does not refer to *Champerea*.
916. *Euphorbia atoto*, Forst. Takow; Playfair, Henry 2,004. S. Cape; Henry 248.
917. *Euphorbia bojeri*, Bankinsing, cultivated; Henry 426.
918. *Euphorbia humifusa*, Willd. Various collectors. Takow; Playfair, Henry 1017.
919. *Euphorbia hypericifolia*, L. S. Cape; Henry 212.
920. *Euphorbia julkini*, Boiss. Tamsui; Oldham.
921. *Euphorbia pilulifera*, L. Various collectors. Pescadores; Tashiro. Takow, S. Cape, Bankinsing; Henry 178, 268, 800. Known as *Ju-ts'ao* 乳仔草; and the milky juice of the plant is said to be applied to the eye in cases of corneal opacity. The Gazetteer describes *Ju-ts'ao* as a plant used to increase the secretion of milk, to be taken internally with pork. In Australia this plant has been used in the form of a decoction as a remedy in asthma and bronchial affections. See *Pharmac. Journal*, XII, 596. See No. 924.
922. *Euphorbia serrulata*, Reinw. West coast; Wilford. Takow; Playfair, Henry. Bankinsing; Henry 888.
923. *Euphorbia thymifolia*, L. West coast; Wilford. Pescadores; Swinhoe, Tashiro. Bankinsing, S. Cape; Henry 871, 1,819. Also known as *Ju-ts'ao*. See No. 921.

924. *Euphorbia tirucalli*, L. Takow; Playfair, Henry.
A very common shrub or small tree. Probably introduced. Known in Formosa as *Tan-nien* (淡乳), at Amoy as *T'ieh-lo* (鐵羅), or *T'ieh-shu* (鐵樹).
925. *Buxus sempervirens*, L. Ape's Hill, Bankinsing; Henry 1,177.
926. *Bridelia tomentosa*, Blume. Takow; Playfair, Henry 757, 1,088. S. Cape, Bankinsing; Henry 44, 199, 242. Known colloquially as the *T'u-mi-shu*, 土蜜樹.
927. *Phyllanthus* sp. Ape's Hill; Henry 1,090.
928. *Phyllanthus niruri*, L. Ape's Hill; Playfair. Takow, S. Cape, Bankinsing; Henry 211, 235, 887.
929. *Phyllanthus reticulatus*, Poir. Takow; Hance, Playfair, Henry 750, 751. S. Cape; Henry 338.
930. *Phyllanthus simplex*, L. Takow; Playfair, Henry. Bankinsing; Henry 868.
931. *Phyllanthus urinaria*, L. Oldham. Pescadores; Tashiro.
932. *Glochidion Arnottianum*, M. Arg. Tamsui; Oldham Takow; Playfair, Henry 713. S. Cape; Henry 1,335, known as the *Ch'ih hsieh*, 赤血.
933. *Glochidion Fortunei*, Hance. Kelung; Ford Ape's Hill; Playfair. Takow, S. Cape; Henry 369, 1,053, 1,216, 1,793.
934. *Glochidion hongkongense*, M. Arg. Tamsui; Oldham Takow; Playfair, Henry 707. Known as the *ta-hung-hsin*, 大紅心.
935. *Glochidion molucanum*, M. Arg. var. Takow plain; Henry 1,929, 2,038.
936. *Glochidion* sp. Takow plain; Henry 2,042.
937. *Glochidion* sp. Bankinsing; Henry 117, 415, 829.
938. *Securinega fluggeoides*, M. Arg. (?) Ape's Hill; Henry 1,115. Pescadores; Tashiro.

939. *Fluggea microcarpa*, Bl. Tamsui; Oldham, Morse (Henry No. 1,463). Bankinsing, Takow, S. Cape; Henry 337, 767, 920, 998, 1,065, 1,072.
940. **Breynia officinalis*, Hemsley. Tamsui; Watters, Oldham. Takow; Playfair, Henry 748, 749. S. Cape, Bankinsing; Henry 241, 505, 1,305. Watters says; "called *Shan-ch'i-chin*. The leaves and root are used to make a wash, which is said to be effectual in removing blisters caused by paint and varnish."
941. *Bischofia javanica*, Bl. Tamsui; Oldham, Morse Takow; Playfair, Henry. S. Cape, Bankinsing Henry 914. This is the *Ka-tan* (加冬) tree, the wood of which is used in making furniture. This name is well-known colloquially and occurs in the Gazetteer and in the Paris Exhibition catalogue.
942. *Daphniphyllum glaucescens*, Blume. Tamsui; Morse (Henry No. 1,399). S. Cape; Henry 668, 996, 1,290. The variety *Oldhami* of Hemsley, in *Indæ Floræ Sinensis*, ii, 429, was collected by Oldham at Tamsui.
943. *Antidesma* sp. Takow, Bankinsing, S. Cape; Henry 780, 915, 1,144, 1,885.
944. *Antidesma japonicum*, S. et Z. Tam-sui; Oldham. Bankinsing; Henry 176, 539, 874.
945. *Jatropha curcas*, L. Takow, Lambay Isle; Henry 739. This American tree is quite naturalized in South Formosa, where it is known as the *T'ung-yu-shu*, 桐油樹. See Notes on Econ. Bot. of China, p. 61.
946. *Jatropha multifida*, L. S. Cape, cultivated (?); Henry 967.
947. *Aleurites cordata*, Steud. Tamsui; Oldham. Ape's Hill; Playfair. The *T'ung-tze-shu*, 桐子樹, or wood-oil tree: seems to be rare in Formosa.

948. *Croton Cumingii*, M. Arg. Tamsui; Oldham. South side; Hance. Takow; Playfair, Henry. S. Cape, Bankinsing; Henry 218.
949. *Croton tiglium*, L. North-east end; Wilford, Bankinsing; used for killing fish; Henry 495.
950. *Acalypha grandis*, M. Arg. Bankinsing; Henry 5, 95.
951. *Acalypha indica*, L. Takow; Playfair, Henry.
952. *Mallotus cochinchinensis*, Lour. Oldham. S. Cape, Bankinsing; Henry 63, 834, 962, 1,598, Known as the *Peh-yeh-tze*, 白葉子.
953. *Mallotus japonicus*, M. Arg. Kelung; Ford. Tamsui; Oldham, Morse (Henry No. 1,734). Tanglaeon; Wilford. Bankinsing; Henry 143, 436, 504.
954. *Mallotus moluccanus*, M. Arg. Takow; Wilford, Playfair, Henry 738, 1,847. S. Cape, Bankinsing; Henry 45, 151, 919.
955. *Mallotus philippinensis*, M. Arg. Tamsui; Oldham. Ape's Hill, Bankinsing, S. Cape; Henry 420, 473, 828, 916, 1,887 1,967.
956. **Mallotus Playfairi*, Hemsley. Takow; Playfair, Henry 766.
957. *Mallotus repandus*, M. Arg. Tamsui; Oldham. South-west side; Wilford. Takow; Playfair, Henry. Bankinsing, S. Cape; Henry 74, 918.
958. *Macaranga tanarius*, M. Arg. Oldham. Takow; Playfair, Henry Tamsui; Morse, S. Cape; Henry 1,968. Known as the *hsieh-t'ung*, 血桐.
959. *Ricinus communis*, L. Takow, S. Cape; Henry common, naturalized.
960. *Homonoia riparia*, Lour. Bankinsing, S. Cape; Henry 180, 261. Known as the *Shui-lui*, 水柳.
961. **Gelonium aequoreum*, Hance. Takow; Wilford, Swinhoe, Playfair, Henry. S. Cape; Henry 604, 691. Known as the *Peh-shu*, 白樹; and

said to occur as a tree in the mountains. About Takow it is a small shrub with yellow wood.

962. *Sapium discolor*, M. Arg. Bankinsing; Henry 549.
Known as the *Shan-chiung*, 山枰.
963. *Sapium sebiferum*, Roxb. Oldham. Takow, S. Cape, Bankinsing; Henry 584. The Gazetteer refers to the *Vegetable Tallow* tree as the *Wu-chiu*, 烏柏. It is known colloquially as the *K'ung* or *K'ing*, 枰; and is called 瓊仔 in the Paris Exhibition Catalogue. Vegetable Tallow is scarcely an industry in Formosa.
964. *Excoecaria agallocha*, L. Edge of Takow lagoon; Playfair, Henry. This tree sometimes becomes diseased in parts, and the wood so changed is known as *t'u-chên-hsiang*, 土沈香. The Gazetteer speaks of the occurrence at Takow of a *hsiang-mu* or "fragrant wood," described as having flowers with 5 petals. Yellow fruit the size of a bean, and a fragrant root.
965. *Excoecaria* sp. Ape's Hill, Bankinsing, S. Cape; Henry 94, 263, 1,807, 1,684, 1,857.
966. *Ulmus parvifolia*, Jacq. Bankinsing; Henry 1,529.
967. **Celtis nervosa*, Hemsley. Ape's Hill, a small shrub; Playfair. Takow, a tree 20 feet or more high; Henry 2,035. Known as the *P'ò-shu*, 朴樹.
968. *Celtis sinensis*, Pers. Tamsui; Oldham. Bankinsing, S. Cape; Henry 1,616, 1,982. Also known as the *p'ò* tree. This is perhaps the 柏仔 of the Paris Exhibition Catalogue.
969. *Trema amboinensis*, Blume. Oldham. Tamsui; Morse (Henry No. 1,464). Bankinsing; Henry 80, 1,769, 1,910. Known as the *Shan-yu-ma*, 山油藤; and occurs in the mountains as a large tree, with soft wood, used for making ladles, buckets, etc.

970. *Trema orientalis*, Blume. Tamsui; Oldham. S. Cape; Henry 624, 999.
971. *Humulus japonicus*, S. et Z. Oldham.
972. *Fatona pilosa*, Gaudich. East coast; Wilford. Takow; Playfair, Swinhoe, Henry 769.
973. *Malaisia tortuosa*, Blanco. Oldham. Ape's Hill; Playfair, Henry 701. S. Cape; Henry 669.
974. *Broussonetia papyrifera*. Vent. Oldham. Takow, Bankinsing; Henry. Known colloquially as the *Lu-a-shu*, 鹿仔樹. The Gazetteer mentions this name as a synonym of the *chu*, 楮; and says "out of the bark paper can be made, but none is made in Formosa; deer are fond of the twigs and leaves, whence the name."
975. *Morus alba*, L. Various localities; Swinhoe, Wilford, Oldham. Takow; Henry 744, 1784. Pescadores; Tashiro. Bankinsing, S. Cape; Henry 100, 134, 269, 1,336. A very variable species, and my numbers represent very distinct varieties. Out of the root-bark of young trees in the neighbourhood of Bankinsing a fibre is obtained, from which one of the kinds of savage cloth is made. Specimens of the root, fibre, cloth, and game-bag, the product of this tree, have been sent by me to the Kew museum.

Schlegel, in his article on the Kingdom of Loo-choo (the ancient name of Formosa) in *Problèmes Géographiques*, quoting from the official History, says many trees occur in Formosa, called *tou-lou*, 鬬樓, which are like the orange tree but with thick foliage and slender branches hanging down like hair. Of the bark of this tree, mixed with hemp and the skins of animals, the women weave cloth and make clothes. The name *tou-lou* does not occur in the Gazetteer;

and I am at a loss to identify it with *Cotton*, *Tree Cotton*, *Corchorus*, *Boehmeria*, *Morus* or *Sterculia platanifolia*, the plants now known in Formosa to be utilized as textiles. This name seems to me to be identical with *tou lo*, 兜羅, the Sanskrit *tu-la*, cotton, which now appears in the Chinese name for broad-cloth, *to-lo-ni*. See Watters, *Chinese Language*, p. 439. By referring to No. 119 of this list, it will be seen that *tou-lu* was the name given by my native collector for *Corchorus olivarius*, which, however, does not seem to be a textile plant in Formosa; and in no way corresponds to the tree described in Schlegel's quotation.

976. *Ficus Beechyana*, H. et A. Oldham. Takow, Bankinsing, S. Cape; Henry 180, 158, 245, 314, 964, 1,184, 1,794, 2,011 very variable; occurs as a shrub and small tree.
977. **Ficus formosana*, Maxim. Tamsui; Oldham. Bankinsing; Henry 24, 25, 497.
978. *Ficus nervosa*, Heyne. Bankinsing, S. Cape; Henry 116, 416, 1,679, 1,999.
979. *Ficus foveolata*, Wall. S. Cape; Henry 942, 1,972.
980. *Ficus wightiana*, Bth. Oldham. Takow; Playfair, Henry 1,879, 2,030. One of the banyan trees, with the inflorescence on the branches below the leaves. Known as the *chio-jung*, 雀榕.
981. *Ficus retusa*, L. Pescadores; Tashiro. Takow; Playfair, Henry. A banyan tree, known as the *jung*, 榕.
982. *Ficus septica*, Rumph. Near Tamsui; Oldham.
983. *Ficus insularis*, Miq. Oldham.
984. *Ficus leucantatama*, Poir. Takow; Playfair, Henry S. Cape; Henry 1,731. A small tree with large leaves, called the *O-a-hsieh*, 蚬仔葉.

985. *Ficus pumila* L. Oldham. Takow; Playfair, Henry 1,159. The fruit of this cut in halves and dried is known as *ok-gue* (*ai-yü-tze*), 愛玉子, an article of some importance, as out of it an excellent jelly is made. Specimens of it have been sent by me to Kew and the Pharmaceutical Museum, London.
986. *Ficus gibbosa*, Blume. Takow; Playfair, Swinhoe, Henry 77. S. Cape, Bankinsing; Henry 316, 902.
987. *Ficus obscura*, Blume. Bankinsing; Henry 124.
988. *Ficus fistulosa*, Reinw. Bankinsing; Henry 16, 499, 1,759.
989. *Ficus Roxburghii* Wall. S. Cape; Henry 1,310.
990. *Ficus nipponica*, Franch, et Sav. Tamsui; Oldham.
991. **Ficus Oldhami*, Hance. Near Tamsui; Oldham.
992. *Ficus Kingiana*, Hemsley, in Hoox, l. c. Plant 2535. Tamsui; Oldham. Kelung, Ford. Takow, Bankinsing, S. Cape; Henry 166, 708, 825, 1937.
993. *Cudrania javanensis*, Trée. Tamsui; Morse. Bankinsing; Henry 135, 164.
994. *Cudrania rectispina*, Hance (?). Takow; Playfair, Henry 720, 2,022. S. Cape; Henry.
995. *Artocarpus integrifolia*, L. Cultivated. The Jack-fruit, described in the Gazetteer under the names *po-lo-mi*, 波羅密, and *yu-po-tan*, 優球曇
996. *Nanornide japonica*, Blume. Swinhoe.
997. *Fleurya interrupta*, Gaul. Bankinsing; Henry 386.
998. **Laportea pterostigma*, Willd. South-west; Swinhoe, Ape's Hill; Playfair, Henry. S. Cape, Bankinsing; Henry.

A small tree, the leaves of which sting violently, known colloquially and in the Gazetteer as *Yao-jen-kon*, 咬人狗.

999. *Pellionia scabra*, Benth. Tamsui; Oldham.
1000. *Pilea* sp. S. Cape; Henry 1,223.
1001. *Pilea scabra*, Benth. Tamsui; Oldham.
1002. *Pilea peploides*, H. et A. Recorded by Hance.
1003. *Pilea bracteosa*, Wedd? Tamsui; Watters.
1004. *Procris larvigata*, Blume? S. Cape, Bankinsing; Henry 1,245, 1,590.
1005. *Elatostemma* sp. Bankinsing, S. Cape; Henry 53, 20?.
1006. *Elatostemma* sp. Bankinsing; Henry 154.
1007. *Elatostemma* sp. Bankinsing; Henry 1,617.
1008. *Boehmeria nivea*, H. et A. Tamsui; Morse. Takow; Playfair. Bankinsing; Henry. 173, 483. Occurs both wild and cultivated Known in Formosa as *tui*, in mandarin, *ch'u*, 苧. It is the source of much of the so-called "Hemp," exported from the island, the remainder being pine-apple fibre. Certain kinds of savage cloth are made from the fibre of wild *Boehmeria*.
1009. **Boehmeria* sp. Kelung; Ford. Takow; Playfair. Henry 468. Bankinsing; Henry.
1010. *Boehmeria densiflora*, H. et A. Ape's Hill; Playfair, Henry S. Cape, Bankinsing; Henry 37, 184 213, 688.
1011. *Boehmeria platyphylla*, Don, var? Bankinsing; Henry 33.
1012. *Boehmeria diffusa*, Wedd., var? Tamsui; Morse (Henry No. 1,471). Bankinsing; Henry 177.
1013. *Boehmeria* sp. S. Cape, Bankinsing; Henry 187, 1,293.
1014. *Villebrunea frutescens*, Blume. Tamsui; Oldham.
1015. *Pouzolzia indica*, Gaud. Oldham. Takow; Playfair, Henry 784.
1016. *Pouzolzia hispida*, Ham. Tamsui; Oldham. Bankinsing; Henry 437.
1017. *Pouzolzia elegans*, Wedd. On river banks; Wilford.

1018. *Pouzolzia hypericifolia*, Bl? Takow, Bankinsing; Henry 387, 728.
1019. *Debregeasia edulis*, Wedd. Oldham.
1020. *Myrica Vidaliana*, Rolfe? S. Cape; Henry 1259.
1021. *Alnus maritima*, Nutt. Tamsui; Morse (Henry No. 1,389, 1,394, 1,732). Known as *Ch'ih-k'o*, 赤柯.
1022. *Quercus cuspidata*, Thunb. S. Cape; Henry 1,313.
1023. *Quercus glauca*, Thunb. Bankinsing; Henry 428.
This is the *Kao-tsan* (九曾) tree, with hard wood used for making carts, etc. The Paris Exhibition Catalogue has the name 九檜.
1024. *Quercus truncata*, King? S. Cape; Henry 1,254.
1025. *Quercus Championi*, Benth. S. Cape; Henry 1,253, 1,993.
1026. *Quercus* sp. S. Cape; Henry 1,367.
1027. *Quercus* sp. S. Cape; Henry 1,368.
1028. *Quercus* sp. S. Cape; Henry 1,371, 1,995.
1029. *Quercus* sp. S. Cape; Henry 1,988.
1030. *Castanopsis chinensis*, Hance. Bankinsing, S. Cape; Henry 60, 556, 1,641, 1,710. Known as the *Kou-li*, 狗栗. The wood is used for making carts, etc.
1031. *Castanopsis* sp. Bankinsing; Henry 474, 1,536. A useful wood, known as *to-a*, 度仔.
1032. *Salix Oldhamiana*, Miq. Tamsui; Morse (Henry No. 1,403, 1,473). Takow, Bankinsing; Henry 1,068.
1033. *Salix* sp. Tamsui; Morse (Henry No. 1,477).
1034. *Pinus Massoniana*, Lamb. In the mountains. The Gazetteer says the *sung* (松) tree only occurs in the mountains of the interior and that *fu-ling* (茯苓) occurs for sale amongst the southern savages.
1035. *Thuja orientalis*, L. S. Cape, Bankinsing; Henry 403, 1,975, 2,076. Known as *pien-po*, 扁柏.

In the Pharmaceutical Museum, London, specimens of twigs and leaves from China labelled *Pien po* are *Thuja orientalis*, L. and to the same species belong seeds labelled *Po-jen* (柏仁). Specimens named *Tse-po* (側柏) are *Juniperus chinensis*, L. See *Notes on Economic Botany of China*, p. 37.

1036. *Podocarpus macrophylla*, Don. Kelung ; Ford.
1037. *Podocarpus nageia*, R. Br. Tamsui ; Morse (Henry No. 1,446). S. Cape ; Henry 1,357.
Known as the *Sha-shan*, 柒杉, a valuable timber tree. It is also named *Shan-sha*, 山杉.
1038. *Podocarpus argotaenia*, Hance. S. Cape ; Henry 2,075.
1039. *Cunninghamia sinensis*, R. Br. Tamsui ; Morse.
1040. *Cycas* sp. Occurs in the interior of the island.
1041. *Microstylis congesta*, Reich, f. Bankinsing, S. Cape ; Henry 835, 1,342.
1042. **Liparis macrantha*, Rolfe, *Ann. of Bot.* IX, p. 156.
Siko Hill, Tamsui ; Morse (Henry No. 1,695).
1043. *Liparis* sp. S. Cape ; Henry 581.
1044. **Liparis Henryi*, Rolfe, *Kew Bulletin*, 1896, p. 193. S. Cape ; Henry 2,074.
1045. *Liparis odorata*, Ldl. Bankinsing ; Henry 896.
1046. *Liparis longipes*, Ldl. Bankinsing, S. Cape ; Henry 1,592, 1,979.
1047. *Liparis plicatu*, Fr. et Sav. Bankinsing ; Henry 138, 1,627.
1048. *Dendrobium Falconeri*, ? S. Cape ; Henry 1,372.
1049. *Dendrobium* sp. S. Cape ; Henry 1,373.
1050. *Fria* sp. S. Cape ; Henry 1,374.
1051. **Eria formosana*, Rolfe, *Kew Bulletin*, 1896, p. 194.
S. Cape ; Henry 1,978.
1052. **Phreatia formosana*, Rolfe, *Ann. of Bot.* IX, p. 156. S. Cape ; Henry 1,349.

1053. *Pachystoma chinense*, Reich. f. Bankinsing; Henry 384.
1054. **Agrostophyllum formosanum*, Rolfe, Ann. of Bot. IX, 157. S. Cape; Henry 1,350.
1055. **Calanthe formosana*, Rolfe, Ann. of Bot. IX, 157. S. Cape; Henry 1,347.
1056. *Calanthe veratrifolia*, R. Br. S. Cape; Henry 1,327.
1057. *Arundina chinensis*, Bl. Tamsui; Morse (Henry No. 1,386).
1058. *Cymbidium* sp. S. Cape; Henry 1,352.
1059. **Geodorum formosanum*, Rolfe, Ann. of Bot. IX, 157. Takow; Playfair, Henry 1,137.
1060. *Geodorum dilatatum*, R. Br. S. Cape; Henry 1,375.
1061. **Cyrtopera formosana*, Rolfe, Kew Bulletin, 1896, p. 198. S. Cape; Henry 1,974.
1062. *Luisia teretifolia*, Gaul? S. Cape; Henry 695.
1063. *Phalaenopsis aphrodite*, Reich, f. S. Cape; Henry 1,705.
1064. *Sarcochilus* sp. S. Cape; Henry 1,971.
1065. **Cleisostoma formosanum*, Hance. Tamsui; Ford.
1066. *Vanilla* sp. Bankinsing; Henry 479.
1067. *Tropidia angulosa*, Ldl. Ape's Hill: Henry 1,905.
1068. **Tropidia formosana*, Rolfe, Ann. of Bot. IX, 158. Bankinsing; Henry 1,573.
1069. *Spiranthes australis*, Ldl. Takow; Playfair, Henry Bankinsing; Henry.
1070. *Anoetochilus Roxburghii*, Ldl. Bankinsing; Henry 1,626.
1071. **Zeuxine formosana*, Rolfe, Ann. of Bot. IX, 158. S. Cape; Henry 644.
1072. *Zeuxine sulcata*, Ldl. Ape's Hill; Playfair. Bankinsing plain; Henry.
1073. *Cheirostylis chinensis*, Rolfe, Ann. of Bot. IX, 158. Ape's Hill, Summit; Henry 320. South of

island ; A Hance. This orchid has also been found by Ford in Hongkong.

1074. **Goodyera formosana*, Rolfe, *Ann. of Bot.* IX, 159.
Bankinsing ; Henry 409.
1075. *Goodyera procera*, Hook. Bankinsing ; Henry 165,
1,826.
1076. *Didymoplexis pallens*, Griff. Takow ; Henry 1,878.
1077. *Habenaria Miersiana*, Champ. S. Cape, Bankinsing ;
Henry 1,212, 1,607.
1078. *Habenaria galeandra*, Bth. Bankinsing ; Henry 850.
1079. *Habenaria goodyeroides*, Don. Ape's Hill ; Playfair,
Henry 1,126. S. Cape. Bankinsing ; Henry
1,211, 1,572.
1080. **Habenaria polytricha*, Rolfe, Hook. *l.c.* Pl. 2, 496.
S. Cape ; Henry 1,246.
1081. *Diploprora championi*, Hk. f. Hook. *l.c.* Pl. 2, 120.
Bankinsing ; Henry 898, 1,606.
1082. *Kaempferia rotunda*, L. Bankinsing, "wild on the
mountains ;" Henry 851. Named *San-nai*,
三奈, by the native collector. This Chinese
name is generally given to Capoor-Cutchery,
which Dymock, *Vegetl. Mat. Medica of W. India*,
p. 780; identifies with *Hedychium spicatum*,
Ham. Dymock notes that two kinds of Capoor-
Cutchery occur in the Indian market, Indian
and Chinese. The Chinese kind is larger,
whiter, and less pungent, the bark being
smoother and of a lighter colour. *San-nai* is
exported in large quantities from Swatow, and in
small quantities from Canton and Hainan. It
would be satisfactory to have specimens of the
plant producing the Chinese drug, to see whe-
ther it was actually the same as *Hedychium*
spicatum.

Note. "The Source of Chinese Capoor
Cutchery, *San-nai*,—which is mainly produced

in the vicinity of Swatow, the export from that port in 1896 being 2986 piculs, valued at 10,442 taels,—seems to be without doubt *Hedychium spicatum*, Sm. In the Hanbury Herbarium of the Pharmaceutical Museum, London, there is a specimen of this plant, rhizome and leaves, which came from near Swatow, and a note to the effect that the plant is said to afford the rhizome sold as “Kapur Kachri.” The taste of the rhizome in the Herbarium is very similar to that of the drug.

The use of the term *San-nai* in Formosa for *Kaempferia* is erroneous. Away from the actual site of production of a well-known drug, it is usual for the Chinese to apply the drug name to an allied or similar plant.”

1083. *Curcuma longa*, L. Takow plain, cultivated; Henry 1,606. This is Turmeric, *Ch'iang-huang*, 薑黃, largely exported from the Island.

Note. The tubers known as *Yü-chin*, 鬱金, used in Chinese medicine and exported from Szechuan, Hankow, and Wenchow, are derived from a species of *Curcuma*, and specimens of the plant are wanted for determination.

1084. *Zingiber officinale*, Rose. Bankinsing, cultivated; Henry 491, 1,575.
1085. *Zingiber* (? *Cryptanthium*) *sp.* Bankinsing; Henry 147, 1,605, 1,607.
1086. *Zingiber* (? *Cryptanthium*) *sp.* Bankinsing, S. Cape; Henry 1,659, 1,966.
1087. *Alpinia nutans*, Rose. Tamsui; Morse. Bankinsing, S. Cape, Takow; Henry 427, 782, 1,331. Known as *Yüeh-t'ao*, 月桃; and occasionally used for making hats and mats.
1088. *Alpinia galang*, Saw. Bankinsing; Henry 804. Named *Nan-ch'iang*, 南薑, a medicinal simple.

1089. *Alpinia* sp. Tamsui; Morse (Henry No. 2,079).
1090. *Costus speciosus*, Sw. Takow; Henry 1,204.
1091. *Canna indica*, L. Bankinsing, S. Cape; Henry
Probably only in cultivation. Colloquially known
as *lien chia*, 蓮菰.
1092. *Musa sapientium*, L. Cultivated. I have seen no
specimens of the wild species of Bauana, said to
occur in the mountains.
1093. *Ananas sativa*, L. The pine-apple, cultivated in the
south for the fruit and for the fibre; out of the
latter a good deal of grass-cloth is made. It is
named in the Gazetteer *fêng-li*, 鳳梨, or *huang-
li*, 黃梨; and is also known colloquially by the
last name or *huang-lai*, 黃來. The Gazetteer
says that in Kwangsi the pine-apple is known
as *t'i-po-lo*, 地波羅, and the jack-fruit as *t'ien-
po-lo*, 天波羅.
1094. *Peliosanthes Teta*, Andr. Bankinsing; Henry 1,591.
1095. *Liriope spicata*, Lour. Takow, S. Cape, Bankin-
sing; Henry 146, 1,098 1,703 1,704.
1096. *Belamacanda chinensis*, Lehm. S. Cape, Bankinsing;
Henry 968, 1,568. Perhaps only in cultiva-
tion.
1097. *Crinum asiaticum*, L. Takow; Playfair, Henry.
Bankinsing, S. Cape; Henry.
1098. *Dioscorea sativa*, L. Takow, Bankinsing, S. Cape;
Henry 854, 1,210, 1,871. Occurs wild. The
cultivated yam in China is known as *shu*, 薯;
and this term has been extended to other tubers,
introductions from America, as the sweet-potato,
known as *san-shu*, *hung-shu* (See No. 672), and
the common potato. In Canton the yam is
known as *shan shu*, 山薯, or *hsin-shu*, 心薯;
while ordinary potatoes (*Solanum tuberosum*) are
named *shu-ts'ai*, 薯仔.
1199. *Dioscorea oppositifolia*, L. Bankinsing; Henry 1,673.

1100. *Dioscorea rhipogonoides*, Oliver.

S. Cape, Bankinsing; Henry 105, 589, 970, 1,297, 1,661. This species was first discovered by Ford in Hongkong; and its tubers are the *shu-lan* 薯蕷,—“*dye-root*” of the English, and “*faux gambier*” of the French. It occurs in Formosa, Kwangtung, Kwangsi, and Tonking; and is an article of considerable trade importance at Lungchow and Pakhoi. It is referred to in the *Gazetteer*. Taintor, *Customs Trade Reports for 1869*, p. 170, says “*dye-root*,”—*tz-nêng* (*shu-lan*)—in the Pepo language *tamak*—is found in the mountains. It gives a durable reddish brown colour to fishing-nets, ropes, sails and cloths.” Little if any is exported from Formosa; but it is much used locally for dyeing nets. In Tonking it is called *Cunao*, and there was an export in 1893 to Hongkong from Tongking of 1,737 tons valued at 174,000 francs. I have written a memorandum on the use, distribution, etc. of this article, published in the *Kew Bulletin* for September, 1895.

1101. **Dioscorea doryphora*, Hance. Takow, Bankinsing; Henry 878, 1,672, 1,922.1102. *Dioscorea daemona*, Roxb (?) Takow; Henry 1,875.1103. *Dioscorea* sp. Bankinsing; Henry 856.1104. *Stemona tuberosa*, Lour. Bankinsing; Henry 816.1105. *Smilax stenopetala*, A. Gray. Bankinsing; Henry 52, 55, 115, 144.1106. *Smilax oldhami*, Miq. Bankinsing; Henry 74.
These two species are known as *t'u-fu-ling*, 土茯苓; for which the *Gazetteer* gives the synonym.1107. *Smilax china*, L. Tamsu; Morse. S. Cape; Henry 284, 901.

1108. *Smilax* sp. Bankinsing, S. Cape; Henry 892, 1,802.
This is also named *t'u-fu-ling*.
1109. *Asparagus lucidus*, Ldl. Bankinsing, S. Cape, Takow; Henry 157, 266. This is *t'ien-mên-tung*, 天門冬, colloquially and in the Gazetteer.
1110. *Hemerocallis fulva*, L. Bankinsing; Henry 818.
Known as *Chin-chén-ts'ai*, 金針菜. It is the 鹿葱 or 萱草 of the Gazetteer.
1111. *Agave rigida*, Mill? Takow; Henry 1,016. Introduced and naturalized about Takow. It is colloquially known as *Kim-mua*, 衿藤; and rope can be made, it is said, out of its fibre.
1112. *Aloe chinensis*, Baker. Bankinsing; Henry 486.
Known colloquially as *Lu-hui*, 蘆會. The juice of this plant was formerly used by Chinese ladies for dressing the hair. Now-a-days Chinese ladies use for this purpose the shavings of a peculiar wood, generally known simply as *p'ao-yeh*, 刨葉. Mr. Playfair has recently discovered the source of this wood, which exudes glue when immersed in water, to be *Machilus Thunbergii*, S. et Z.
1113. *Dracaena angustifolia*, Roxb. S. Cape; Henry 699, 1,804.
1114. *Cordyline terminalis*, Kunth. Bankinsing, S. Cape; Henry 813. Known colloquially as *hung-chu*, 紅竹.
1115. *Dianella ensifolia*, L. Bankinsing, S. Cape, Ape's Hill; Henry 66, 198, 459, 792, 811.
1116. *Allium odorum*, L. Takow plain; Henry 1,856.
1117. *Lilium longiflorum*, Thunb. Tamsui; various collectors. S. Cape; Henry 927, 1,569.

Franchet says the Loochoo Islands and Tamsui are the only localities from which he has seen this plant in a wild state. The speci-

mens which come from the continent of China are all referable to *Lilium Browni*. Franchet distinguishes the two species as follows :—

Lilium longiflorum, Thunb. Nectariferous furrow of the petals and filaments of the stamens glabrous.

Lilium Browni, F. E. Brown. Nectariferous furrow and filaments of the stamens bearing short papillose hairs. The flowers of the latter species in the wild state are larger, 6 to 8 inches long, and tinged with violet on the exterior. Those of the former species are entirely white on the exterior, or sometimes tinged with a greenish hue; and they are seldom more than 5 inches long.

- 1118. *Heloniopsis* sp.
- 1119. *Tricyrtis macropoda*, Miq. Bankinsing; Henry 1485.
- 1120. **Tricyrtis formosana*, Baker. Tamsui; Morse (Henry No. 1393). S. Cape; Henry 1,267, 1,393 A.
- 1121. *Monochoria vaginalis*, Presl. Takow plain, S. Cape, in rice-fields; Henry 781.
- 1122. *Polia sorzogonensis*, Endl. Bankinsing; Henry 133, 575.
- 1123. *Commelina Benghalensis*, L. Pescadores; Tashiro.
- 1124. *Commelina obliqua*, Ham. Tamsui; Morse (Henry No. 1,447.)
- 1125. *Commelina nudiflora*, L. Takow, S. Cape; Henry 357, 2,041.
- 1126. *Commelina polygama*, Bth. Pescadores; Tashiro.
- 1127. *Commelina undulata*, R. Br. Takow; Playfair, Henry.
- 1128. *Aneilema Loureiri*, Hance. Bankinsing; Henry 872.
- 1129. *Aneilema nudiflorum*, R. Br. Bankinsing; Henry 882.
- 1130. *Aneilema sinicum*, Ldl. S. Cape, Bankinsing; Henry 899, 1,351. Takow plain; Henry 1,897 is also perhaps this species.

1131. *Forrestia hispida*, Rich et Liss. Bankinsing; Henry 149, 1,618.
1132. *Cyanotis arachnoidca*, C. B. Clarke. Bankinsing; Henry 900.
1133. *Floscopa paniculata*, Hassk. Bankinsing; Henry 1,663.
1134. *Flagellaria indica*, L. S. Cape; Henry 1,855.
1135. *Areca Catechu*, L. Takow plain; Henry. The Gazetteer gives some information about the Areca nut (which is wrongly named Betel nut by Europeans in China), and the different customs in regard to its use. Lime, Catechu, the leaf and the fruit of the Betel pepper are all used as accessories in chewing the areca nut. In Chinese the nut itself is *pin-lang*, 檳榔; the nut together with the husk is *ta-fu-tze*, 大腹子; and the husk is *ta-fu-p'i*, 大腹皮.
- Fans are made in Tainanfoo from the leaf of this palm, known as *lao-hsio-shan*, 老葉扇.
1136. *Arenga Engleri*, Becc. Tamsui; Ford.
- Ape's Hill, Bankinsing; Henry 798. This pretty small palm is known at Takow as the *ts'ung*, 欖, a name given on the mainland to *Trachycarpus*.
1137. *Phoenix humilis*, L. var. *Hanceana*, Becc. Takow; Playfair, Henry. S. Cape; Henry. A very common small palm with edible fruit. Known colloquially as the *kuang-lang*, 欖榔, or *k'eng-lang*, 欖榔; and described under the latter name in the Gazetteer. The *kuang-lang* of the Gazetteer may refer to a different palm; and this name is given in South China to *Caryota ochlandra*, Hance.
1138. *Trachycarpus excelsa*, B. et Hk. f. Tamsui; collectors. Bankinsing; Henry 821 is perhaps this species.

1139. **Calamus formosanus*, Beauv. Tamsui; Morse. Bankinsing, S. Cape; Henry 522, 587, 687.
1140. *Calamus margaritae*, Hance. Bankinsing; Henry 521. The preceding two rattans are distinguished by my native collector, thus; the first is *t'u t'eng*, 土藤, the latter *chêng-t'eng*, 正藤. The Gazetteer says there are two kinds; and Taintor observes that the Rattans of Formosa are cheaper and coarser than those of the Straits. Naturally they are not the same species.
1141. *Calamus* sp. South Cape: Henry 1,854.
1142. *Cocos nucifera*, L. Said to occur wild on the island.
1143. *Pandanus odoratissimus*, L. Takow; Playfair, Henry. The Gazetteer describes under the names *lin-tou*, 林投, and *lin-ch'a*, 林茶. The former is used colloquially.
1144. *Typha* sp. Takow plain; Henry 1,815.
1145. *Arisoema ringens*, Schott. Tamsui; Morse.
1146. **Amorphophallus* sp. nova. Ape's Hill; Henry 776, 1,914. Known as *shih-shu*, 石薯, or *shan-shu*, 山薯.
1147. *Amorphophallus* sp. Bankinsing; Henry's native collector. A much larger species than the last, with tubers as large as 8 inches in diameter. The specimens obtained were unluckily destroyed.
1148. *Colocasia antiquorum*, Schott. The taro, cultivated. The Gazetteer refers to several kinds of taro under the general heading of *yü-t'ou*, 芋頭, or *fan-yü*, 番芋; viz;—
- (1.) Long kind, 土芝. This seems to be the *yüan-yü*, 土芋, of the Cantonese, the kind known in China from ancient times.
- (2.) Small round kind, 蹲鴨. This is probably the *yüan-yü*, 圓芋, of the Cantonese.

(3.) *Pin-lang-yü*, 旗榔芋, red in colour and with numerous lateral tubers. This is very large and is said by Cantonese to be an introduction from Honolulu.

(4.) *Tamsui yü*, 淡水芋; has no small lateral tubers. In Canton No. 3 is also called *fan-yü*, 番芋; but Nos. 3 and 4 are sometimes lumped together as *no-mi-yü*, 糯米芋. These Chinese names probably represent different species. In Hainan *fan-yü*, 番芋, *Alocasia cucullata*, Schott. Parker reports, from Canton, *Alocasia odora*, C. Koch.

In central and western China the ordinary potato, *Solanum tuberosum*, is known as *yang-yü*, 洋芋; and it is figured without a hint regarding its foreign origin in late times, in *Chih Wu Ming* vi, 33, with the name, 陽芋. This shows how speedily forgotten in a country like China is the origin of plants from abroad.

1149. *Alocasia macrorrhiza*, Schott. Ape's Hill, S. Cape, Henry 810, 1,915. Tamsui; Morse (Henry No. 2014). Occurs wild in many parts of Formosa and is cultivated as an ornamental plant on the mainland. Known as *shan-yü*, 山芋 or *ku-p'o-yü*, 姑婆芋.
1150. *Epipremum mirabile*, Schott? Tamsui; Morse. Takow, Bankinsing; Henry 839. A large climber on trees, remarkable for its loop-holed and indented leaves.
1151. *Pothos Seemani*, Schott. Bankinsing, S. Cape; Henry 689.
1152. *Acorus gramineus*, Ait. Bankinsing; Henry 142.
1153. *Sagittaria sagittifolia*, L. Rice-fields, common.
1154. *Potamogeton mucronatus*, Presl. Bankinsing, Takow plain; Henry 1,203, 1,773, 1,811.
1155. *Potamogeton* sp. Takow plain; Henry 1,813.

1156. *Potamogeton* sp. Auping ; Henry 1,767.
1157. *Ruppia maritima*, L. Takow lagoon ; Henry 1,099.
1158. *Eriocaulon Wallichianum*, Mart. Takow plain ; Henry 1,801.
1159. *Pycereus globosus*, Reich. Takow ; Henry 760.
1160. *Pycereus polystachys*, Beauv. Takow ; Henry 1,047.
1161. *Pycereus sanguinolentus*, Nees. Takow ; Henry 1,120.
1162. *Juncellus serotinus*, C. B. Clarke. Takow ; Henry 1,842.
1163. *Juncellus inundatus*, C. B. Clarke. Takow ; Henry 702, 1,089, 1,117, 1,130, 1,163.
1164. *Cyperus radiatus*, Vahl. Takow ; Henry 1,819.
1165. *Cyperus difformis*, L. Oldham. Takow ; Henry 730.
1166. *Cyperus Iria*, L. Oldham. Takow ; Henry 781.
1167. *Cyperus eleusinoides*, Kunth. Takow ; Henry 768, 1,078.
1168. *Cyperus distans*, L. Takow ; Henry 790 (*pro parte*), 1,011, 1,041, 1,129, 1,880.
1169. *Cyperus nutans*, Vahl. Pescadores ; Tashiro.
1170. *Cyperus stoloniferus*, Relz. Takow spit ; Henry 1,957.
1171. *Cyperus tenuiflorus*, Rottb. Takow ; Henry 778, 1,037.
1172. *Cyperus digitatus*, Roxb. Takow ; Henry 1,862.
1173. *Cyperus* sp. Takow ; Henry 1,869.
1174. *Cyperus rotundus*, L. Pescadores ; Tashiro. Tamsui ; Oldham, Swinhoe. Takow ; Henry 1,014, 1,035, 1,165, 1,774, 1,958.
1175. *Cyperus tegetiformis*, Roxb. Takow ; Henry 790 (*pro parte*), 1,129 (*pro parte*).

Known as *kiam-ts'ao*, i.e. "salt grass." The dried culms are used as string for tying small packages.

It is uncertain from what plant the famous *Taika* mats, (大甲蓆) are produced. These mats are largely exported from Tamsui. They are

used for sleeping on; and the finest kinds, even in texture and rollable into a small compass, are often very dear, as much, it is said, occasionally as \$70 each. The plant, which is probably a *Cyperus* or *Scirpus*, is reported to occur only in cultivation; and the whole subject, plant used, mode of manufacture, etc., is well worth investigating. See notes from C. B. Clarke, following. With regard to the sources of Chinese matting in general, I now append certain notes.

“According to Hance, CANTON MATTING is mainly of two kinds. (A.) That used for sails at Canton. It is made out of *Lepironia mucronata*, Presl., which is cultivated at Shiu-king. The plant is known as t’o. This matting is of a pale brown colour and is never dyed. (B.) The floor-matting, which is extensively exported from Canton for use in America, etc.; it is produced from *Cyperus tegetiformis*, Roxb., which is grown near Fu-mun. The plant is called lu-ts’ao. An account of the dyeing, manufacture, etc. is given by Hirth in the Customs Vienna Exhibition Catalogue and in *China Review*, I. p. 254. See Hance, *Journal of Botany*, 1879.”

C. B. Clarke says that specimens from Hance include *C. malaccensis* as well as *C. tegetiformis*, and the former may be correct, if it is true, as is stated, that the plant grows in brackish water. C. B. Clarke again further states that Hance’s plant is really *C. malaccensis*, Lam., and not *C. tegetiformis*; and he continues;—“the specimens sent by Watters from Formosa of the plant out of which matting is made are *C. malaccensis*, also.” I am not certain if Watter’s specimens purported to be from Taika, where the famous mats are made.

NINGPO MATTING, according to Cooper, who sent specimens to Kew, though slightly dearer than Canton matting is cheaper in the end as it lasts three times as long. Both this matting and the Ningpo "Rush Hats" of commerce are made from *Cyperus tegetiformis*, Roxb., the only difference being that in making the hats the culms are used whole; while for matting they are split in two.

1176. *Mariscus albescens*, Gaud. Takow; Henry 763, 783, 1,007, (*pro parte*), 1,032, 1,881.
1177. *Mariscus Pohlianus*, Schrader. Takow; Henry 716 729.
1178. *Mariscus cyperinus*, Vahl. Ape's Hill; Henry 1,118, 1,700.
1179. *Mariscus sieberianus*, Nees. Tamsui; Morse (Henry No. 1,456.)
1180. *Mariscus ferox*, C. B. Clarke. Takow; Henry 1,776.
1181. *Kyllinga monocephala*, L. S. Cape; Henry 352, 1,329.
1182. *Kyllinga brevifolia*, Rottb. Takow; Henry 1,102, 1,816.
1183. *Kyllinga brevifolia*, Rottb. var *B.* (*K. oligostachya*, Boeck). Takow; Henry 1,012.
1184. *Heleocharis acicularis*, R. Br. Takow; Henry 1,839.
1185. *Heleocharis plantaginea*, R. Br. Takow; Henry 784.
1186. *Heleocharis capitata*, R. Br. Takow; Henry 704, 1,042, 1,797, 1,961.
1187. *Heleocharis* sp. Takow; Henry 1,889.
1188. *Fimbrostylis diphylla*, Vahl. Takow; Henry 786 A, 788, 789, 1,040, 1,101, 1,148.
1189. *Fimbrostylis monostachya*, Hassk. Takow; Henry 782, 759, 1,059.

1190. *Fimbrostylis squarrosus*, Vahl. Takow; Henry 1,809.
1191. *Fimbrostylis ferruginea*, Vahl. Takow; Henry 712,
733, 773, 1,066, 1,835, 1,848.
1192. *Fimbrostylis miliacea*, Vahl. Takow, S. Cape;
Henry 249, 786 B, 1,113, 1,845, 1,949.
1193. *Fimbrostylis complanata*, Link. Takow; Henry 772,
785, 787, 1,817, 1,956.
1194. *Fimbrostylis schoenoides*, Vahl. Takow; Henry
1,912.
1195. **Fimbrostylis formosensis*, C. B. Clarke. Takow
spit; Henry 1,834, 1,860.
1196. *Fimbrostylis barbata*, Kunth. Takow; Henry 1,866.
1197. *Fimbrostylis sericea*, Vahl. Takow; Henry 1,007,
(*pro parte*), 1,008.
1198. *Fimbrostylis spathacea*, Roth. Takow, sea-shore
rocks; Henry 1,071, 2,013.
1199. *Fimbrostylis polytrichoides*, Vahl. Takow; Henry
1,100.
1200. *Bulbostylis barbata*, Kunth. Takow; Henry 1,868.
1201. *Scirpus triqueter*, L. Tamsui; Morse (Henry No.
1,761). Used for making mats.
1202. *Scirpus mucronatus*, L. Takow; Henry 1,160.
Called *hsi-ts'ao*, 蒺草; and mats are said to be
made of it.
1203. *Scirpus Ternatanus*, Reinw. S. Cape; Henry 244,
593, 609.
1204. *Scirpus maritimus*, L. Takow; Henry 1,818.
1205. *Scirpus lacustris*, L. Takow; Henry 754, 1,028,
1,057, 1,059, 1,775, 1,777.
1206. *Scirpus erectus*, Poir. Takow; Henry 1,088.
1207. *Fuirena glomerata*, Lam. Takow; Henry 1,084.
1208. *Rhynchospora aurea*, Vahl. Takow; Henry 1,843.
1209. *Schoenus falcatus*, R. Br. Takow; Henry 1,943.
1210. *Cladium undulatum*, R. Br. Takow; Playfair.
1211. *Scleria elata*, Thw. var. *decolorans*. S. Cape; Henry
608.

1212. *Scleria* sp. Bankinsing; Henry 478.
1213. *Carex brunnea*, Thunb. Tamsui; Morse (Henry No. 1,401). Ape's Hill; Henry 2009.
1214. *Carex phacota*, Spreng. Bankinsing; Henry 540.
1215. *Carex valida*, Nees. Bankinsing; Henry 840.
1216. *Carex baccans* Nees. Tamsui; Morse (Henry No. 1,402).
1217. *Paspalum Thunbergii*, Kunth. Pescadores; Tashiro.
1218. *Paspalum* sp. Takow; Henry 736, 1,164.
1219. *Paspalum* sp. Takow; Henry 1,036, 1,062, 1,900.
1220. *Isachne australis*, Br. Takow; Henry 1,076.
1221. *Isachne Griffithiana*, Munro? Ape's Hill; Henry 1,080.
1222. *Panicum colonum*, Kunth. Ape's Hill; Playfair. S. Cape; Henry 276.
1223. *Panicum crus-galli*, L. Pescadores; Tashiro. Takow; Henry 1,796. Ape's Hill; Playfair (*var. aristata*).
1224. *Panicum plicatum*, Lam. S. Cape, Bankinsing; Henry 1,238, 1,570.
1225. *Panicum procumbens*, Nees. Takow; Playfair, Henry 1,020.
1226. *Panicum antidotale*, Retz. Takow; Playfair, Henry 1,108.
1227. *Panicum miliaceum*, L. Cultivated; probably the *ya-ti-shu*, 鴨蹄黍, of the Gazetteer.
1228. *Oplismenus compositus*, Roem. et Sch. Ape's Hill; Playfair. Bankinsing, S. Cape; Henry 232, 1,557.
1229. *Setaria viridis*, Beauv. Ape's Hill; Playfair. Pescadores; Tashiro. S. Cape, Takow; Henry 969, 1,104.
1230. *Setaria glauca*, Beauv. Takow; Henry 1,109.
1231. *Setaria italica*, Kunth. Bankinsing, cultivated; Henry 571. The *huang-su*, 黃粟, of the Gazetteer.

1232. *Spinifex squarrosus*, L. Pescadores ; Tashiro. Takow, sea-sand ; Playfair, Henry.
1233. *Coix lachryma*, L. Bankinsing, cultivated ; Henry 51.
1234. *Zea mays*, L. Cultivated. Maize, known in Formosa as *fan-meh*, 番麥,
1235. *Zizania aquatica*, L. Cultivated at Takow and Anping ; known as *chiao-peh-sun*, 茭白荷.
1236. *Oryza sativa*, L. Many kinds of rice are cultivated and the Gazetteer has a long discussion on the different varieties. The main division is ;— ordinary rice, *kêng*, 秈 or 粳 ; and *glutinous rice*, *no-mi*, 糯米, or *shu-t'ao*, 秫稻. Of ordinary rice, the chief division seems to be the kinds *chien*, 占, and *tsao*, 早. The *chien* is so-called according to the Gazetteer, because it was introduced into China (about 1,000 A. D.) from Cambodia, 占城. The general term for rice of all kinds is *ku-tze*, 穀子.
1237. *Leersia hexandra*, Sw. Takow ; Henry 1,170.
1238. *Perotis latifolia*, Art. Takow Spit ; Henry 1,048.
1239. *Zoysia pungens*, W. Pescadores ; Tashiro. Takow ; Henry 1,798, 1,906.
1240. *Imperata arundinacea*, Cyr. Takow ; Playfair. S. Cape ; Henry 955. Pescadores ; Tashiro. Known as *mao*, 茅 ; and used for thatch.
1241. *Miscanthus* *sp. nova* ? Takow ; Playfair.
1242. *Miscanthus japonicus*, Huck. Takow ; Henry. These tall grasses are colloqually known as *kuan* ; perhaps this is the character 管.
1243. *Saccharum officinarum*, L. The sugar-cane, much cultivated in the south. The Gazetteer distinguishes 3 kinds ; red cane, white cane, and bamboo-cane (*chu-chê*, 竹櫨).
1244. *Erianthus fastigiatus*, Takow ; Playfair.
1245. *Spodiopogon sibiricus*, Trin. Takow ; Playfair, Henry.

1246. *Spodiopogon obliquivalvis*, Nees. Takow; Henry 1,807.
1247. *Pollinia glabrata*, Trin. Takow; Playfair.
1248. *Pogonatherum saccharoideum*, Beauv. Bankinsing, Takow; Henry 382, 762. Known as *pi-tze-ts'ao*, 必子草; and used as a diuretic.
1249. *Rottboellia exaltata*, L. Takow; Playfair, Henry 1,127.
1250. *Manisuris granularis*, Sæ. Takow; Playfair, Henry 1,865.
1251. *Haemarthria fasciculata*, Kunth. Takow; Playfair.
1252. *Ischaemum angustifolium*, Hackel. Ape's Hill; Henry 1,056.
1253. *Heteropogon hirtus*, Pers. Takow; Playfair, Henry.
1254. *Andropogon schoenanthus*, L. Takow; Playfair.
1255. *Andropogon Vachellii*, Nees. Takow; Playfair.
1256. *Andropogon Nardus*, L. Takow; Playfair.
1257. *Chrysopogon aciculatus*, Trin. Takow; Playfair, Henry 1,084.
1258. *Sorghum vulgare*, Pers. Bankinsing, S. Cape, cultivated; Henry 257, 807. Known as *lu-shu*, 蘆黍, or *kao-liang*, 高粱. It may here be noted that *Sorghum saccharatum*, which is cultivated in Kiangsu for its seeds, and has been introduced into the United States and France as a sugar-producing plant, is never utilized for this purpose in Chiua; and the name for this species in America, "Chinese sugar-cane," is somewhat misleading.
1259. *Anthistiria ciliata*, Linn. f. Bankinsing; Henry 1,518.
1260. *Apluda mutica*, L. Takow; 743, 1,114.
1261. *Sporobolus elongatus*, R. Br. Ape's Hill; Henry 1,080.
1262. *Sporobolus virginicus*, Kunth. Takow; Playfair, Henry 1,067.

1263. *Cynodon Dactylon*, Pers. Takow; Playfair, Henry Pescadores; Tashiro.
1264. *Chloris barbata*, Sw. Takow; Playfair, Henry 726, 1,023.
1265. *Gymnopogon digitatus*, Beauv. Takow; Playfair.
1266. *Eleusine aegyptiaca*, Pers. Pescadores; Tashiro. Ape's Hill; Henry 755, 1,087.
1267. *Leptochloa chinensis*, Nees. Takow; Playfair, Henry.
1268. *Arundo Benghalensis*, L. Takow; Playfair. Known colloquially and mentioned in the Gazetteer as *lu-chu*, 蘆竹.
1269. *Arundo Roxburghii*, Kunth. Pescadores; Tashiro.
1270. *Eragrostis orientalis*, Trin. Takow; Playfair.
1271. *Lophatherum Lehmanni*, Nees? Bankinsing; Henry 1,647.
1272. *Poa trivialis*, L.? Takow; Henry 1,055.
1273. *Hordeum vulgare*, L. Cultivated.
1274. *Triticum sativum*, Lam. Cultivated.
1275. *Bambusa tuldooides*, Munro.
1276. *Bambusa angulata*, Munro.
1277. *Bambusa breviflora*, Munro. Tamsui.
1278. *Bambusa Oldhami*, Munro. Tamsui.
1279. *Dendrocalamus latiflorus*, Munro. Bankinsing; Henry 14, 1,760.

II.—FERNS AND FERN-ALLIES.

1280. *Gleichenia dichotoma*, Willd. S. Cape, Bankinsing; Henry 647.
1281. **Alsophila formosana*, Baker, *Summary of New Ferns*. Tamsui; Hancock.
1282. **Alsophila denticulata*, Baker, *Journal of Bot.* 1885, p. 102. Tamsui; Hancock.
1283. *Alsophila tomentosa*, Hk. Wilford.
1284. *Alsophila latebrosa*, Hk. S. Cape; Henry 907.
1285. **Alsophila subglandulosa*, Hance. Oldham.

1286. *Dicksonia Barometz*, Link. Tamsui ; Morse (Henry No. 1,385).
1287. *Trichomanes pallidum*, Bl. Tamsui ; Morse (Henry No. 1,408).
1288. *Trichomanes auriculatum*, Bl. S. Cape ; Henry 1,229.
1289. *Davallia elegans*, Sw. Bankinsing ; Henry 1,493.
1290. *Davallia Griffithiana*, Hk. Occurs in Formosa.
1291. *Davallia strigosa*, Sw. Tamsui ; Morse (Henry, No. 1,441). Bankinsing ; Henry 1,492.
1292. *Davallia rhomboidea*, Wall. Tamsui ; Morse (Henry No. 1,441 A). This is a variety of the last, according to Baker.
1293. *Davallia tenuifolia*, Sw. Tamsui ; Morse (Henry No. 1,434). Bankinsing, S. Cape ; Henry 40, 666.
1294. *Davallia solida*, Sw. S. Cape ; Henry 1,240.
1295. *Davallia repens*, Desv. S. Cape ; Henry 1,362.
1296. *Davallia dissecta*, J. Sm. Tamsui ; Morse (Henry Nos. 1,414, 1,423).
1297. *Lindsaya flabellulata*, Dry. Tamsui ; Morse (Henry No. 1,391).
1298. *Lindsaya ensifolia*, Sw. Bankinsing ; Henry 1,497, 1,502.
1299. *Adiantum lunulatum*, Burm. Ape's Hill ; Playfair. Takow, Bankinsing ; Henry.
1300. *Adiantum capillus-Junonis*, Hance. Ape's Hill ; Playfair, Henry.
1301. *Adiantum caudatum*, L. Takow ; Playfair, Henry Bankinsing ; Henry.
1302. *Adiantum capillus-Veneris*, L. Morse (Henry No. 1,409). Takow ; Playfair, Henry.
1303. *Adiantum hispidulum*, Sw. Bankinsing ; Henry 1,488,
1304. *Adiantum flabellulatum*, L. Tamsui ; Morse (Henry No. 1,420).

1305. *Cheilanthes mysurensis*, Wall. Ape's Hill; Henry.
1,063.
1306. *Cheilanthes tenuifolia*, Sw. Ape's Hill; Playfair.
1307. *Onychium auratum*, Kaulf. Bankinsing; Henry 71.
1308. *Onychium japonicum*, Kunze. Tamsui; Morse
(Henry No. 1,435). Bankinsing, Takow;
Henry 530, 531, 1,097, 1,510.
1309. *Pteris cretica*, L. Tamsui; Morse (Henry No.
1,422).
1310. *Pteris ensiformis*, Burn. Tamsui; Morse (Henry
Nos. 1,412, 1,417). Ape's Hill; Playfair.
1311. **Pteris formosana*, Baker, *Journal of Bot.* 1885, p.
103. Tamsui; Hancock.
1312. *Pteris semipinnata*, L. Tamsui; Morse (Henry No.
1,418). Bankinsing; Henry 1,418 A.
1313. *Pteris quadriaurita*, Retz. Tamsui; Morse (Henry
No. 1,427). Ape's Hill; Playfair.
1314. *Pteris incis*a, Thunb. Tamsui; Morse (Henry No.
1,438).
1315. *Pteris marginata*, Bory. Tamsui; Morse (Henry
No. 1,413).
1316. *Pteris Grevilleana*, Wall. Bankinsing; Henry
1,495.
1317. *Pteris longifolia*, L. Bankinsing, Takow; Henry.
1318. *Ceratopteris thalictroides*, Brong. Takow plain, S.
Cape; Henry 270, 1,924.
1319. **Lomaria Hancockii*, Baker, *Summary of New Ferns*.
Tamsui; Hancock.
1320. **Lomaria stenoptera*, Baker, *Summary of New Ferns*.
Tamsui; Hancock.
1321. *Lomaria* sp. S. Cape; Henry 255.
1322. *Blechnum orientale*, B. Tamsui; Morse (Henry No.
1,500 A.). Bankinsing, S. Cape, Takow plain;
Henry 5821, 500,, 2,039.
1323. *Woodwardia orientalis*, Sw. Tamsui; Morse, Takow;
Playfair, Henry.

1324. *Asplenium nidus*, L. Tamsui; Morse (Henry No. 1,380). Bankinsing; Henry 1,496.
1325. **Asplenium holophyllum*, Baker, *Summary of New Ferns*. Tamsui mountains; Hancock.
1326. **Asplenium Hancockii*, Maxim. Tamsui mountains; Hancock.
1327. *Asplenium falcatum*, Lam. Ape's Hill; Henry 796.
1328. *Asplenium macrophyllum*, Sw. S. Cape; Henry 1,255.
1329. *Asplenium unilaterale*, Lam. Bankinsing, Ape's Hill; Henry 96, 97, 793. This is an older name than *A. ressectum*, Sw.
1330. **Asplenium formosanum*, Baker, *Summary of New Ferns*. Tamsui; Hancock.
1331. *Asplenium laserpitiiifolium*, Lam. S. Cape; Henry 1,249.
1332. *Asplenium davallioides*, Hk. Tamsui; Morse (Henry No. 1,421). Ape's Hill; Henry.
1333. *Asplenium lanceum*, Thunb. Tamsui; Morse (Henry No. 1,377).
1334. **Asplenium chlorophyllum*, Baker, *Journ. of Bot.* 1,885, p. 104. Tamsui; Hancock.
1335. *Asplenium bantamense*, Baker. Bankinsing; Henry 1,635.
1336. *Asplenium sylvaticum*, Presl. Bankinsing; Henry 41, 1,511.
1337. *Asplenium japonicum*, Thunb. Tamsui; Morse (Henry Nos. 1,411, 1,415).
1338. *Asplenium esculentum*, Presl. Tamsui; Morse (Henry No. 1,397). Takow plain; Henry 2,040.
1339. *Asplenium* sp. nova. S. Cape's Henry 1,248. Placed by Baker as species 61* of *Synopsis Filicum*.

NOTE. *Asplenium cardiophyllum*, Baker, is wrongly recorded by Baker in *Summary of New Ferns* as being from Formosa. It is only known from Hainan.

1340. *Aspidium auriculatum*, Sw. Occurs in Formosa.
1341. *Aspidium amabile*, Bl. Bankinsing; Henry 1,636.
1342. *Aspidium varium*, Sw. Tamsui; Morse (Henry No. 1,425 A). Bankinsing; Henry 1,540.
1343. *Aspidium Hancockii*, Baker, *Summary of New Terns*. Tamsui; Hancock.
1344. *Aspidium aristatum*, Sw. Tamsui; Morse (Henry Nos. 1,416, 1,425, 1,437).
1345. *Aspidium membranaceum*, Hk. Takow; Playfair, Henry 1,934.
1346. *Aspidium* sp. Tamsui; Morse (Henry 1,440).
1347. *Nephrodium decursivo-pinnatum*, Baker. Tamsui; Morse (Henry Nos. 1,378, 1,381).
1348. *Nephrodium gracilescens*, Hook. Tamsui; Morse (Henry No. 1,392).
1349. **Nephrodium leucostipes*, Baker, *Journ. of Bot.* 1885, p. 105. Tamsui; Hancock.
1350. *Nephrodium intermedium*, Baker. Tamsui; Morse (Henry No. 1,426).
1351. *Nephrodium setigerum*, Baker. Tamsui; Morse Henry No. 1,385, *pro parte*). S. Cape; Henry 680.
1352. *Nephrodium sophoroides*, Desv. S. Cape, Bankinsing; Henry 1,221, 1,509.
1353. *Nephrodium molle*, Desv. Tamsui; Morse (Henry Nos. 1,379, 1,439, 1,443). S. Cape; Henry 1,221, 1,269.
1354. *Nephrodium subtriphyllum*, Baker. Bankinsing; Henry 193.
1355. *Nephrodium decurrens*, Baker. S. Cape, Bankinsing; Henry 194.
1356. *Nephrodium cicutarium*, Baker. Bankinsing; Henry 192.
1357. *Nephrodium truncatum*, Presl. Takow, Bankinsing; Henry 740.
1358. *Nephrodium polymorphum*, Baker. Bankinsing; Henry 1,615.

1359. *Nephrolepis cordifolia*, Presl. Tamsui; Morse (Henry No. 1,424). Ape's Hill, Bankinsing; Henry 1,154 A, 1,638.
1360. *Nephrolepis exaltata*, Schott. Ape's Hill; Henry 1,154.
1361. *Nephrolepis acuta*, Presl. Tamsui; Morse. Lambay Isle, Takow Plain, Bankinsing; Henry 1,010, 1,640, 2,021. Baker now can not draw any line between these two species.
1362. *Polypodium distans*, Don. Occurs in Formosa.
1363. **Polypodium Oldhami*, Baker. Oldham.
1364. *Polypodium urphyllum*, Wall. S. Cape; Henry 1,268.
1365. *Polypodium proliferum*, Presl. Takow; Playfair, Henry.
1366. *Polypodium amvenum*, Wall. Tamsui; Morse (Henry No. 1,433).
1367. **Polypodium cauliceps*, Baker, *Summary of New Ferns*.
1368. **Polypodium formosum*, Baker, *Journ. of Bot.* 1885, p. 105. Tamsui; Hancock.
1369. *Polypodium adnascens*, Sw. Ape's Hill, Bankinsing; Henry 747, 1,532. To this species, *var. varius*, belong Tamsui; Morse (Henry No. 1,432), and S. Cape; Henry 594, 1,247.
1370. *Polypodium Lingua*, L. Tamsui; Morse (Henry, No. 1,429, 1,431).
1371. **Polypodium polydactylon*, Hance.. Tamsui; Hancock. Morse (Henry No. 1,390).
1372. **Polypodium macrosorum*, Baker, *Journ. of Bot.* 1885, p. 106. Tamsui; Hancock.
1373. *Polypodium lineare*, Thunb. Tamsui; Morse (Henry No. 1,490).
1374. **Polypodium Playfairi*, Baker, *Summary of New Ferns*. Ape's Hill; Playfair, Henry.

1375. *Lycopodium carinatum*, Desv. Recorded as occurring in Formosa by Baker, Handbook of the Fern. Allies, p. 17.
1376. *Selaginella atroviridis*, Spring. Recorded by Baker for Formosa, loc. cit. p. 77.
1377. *Selaginella leptophylla*, Baker. Tamsui; Oldham.
1378. *Polypodium sinuosum*, Wall. Recorded by Hance from Formosa.
1379. *Polypodium superficiale*, Bl. Bankinsing; Henry 1,489.
1380. **Polypodium Steerei*, Harringt. Jour. Lin. Soc. XVI. 32. Dr. Steere.
1381. *Polypodium linearifolium*, Ilk. Oldham.
1382. *Polypodium irioides*, Lam. S. Cape; Henry 1,360 (pro parte).
1383. *Polypodium hastatum*, Thunb. Tamsui; Morse (Henry No. 1,410).
1384. *Polypodium pteropus*, Blume. Occurs in Formosa.
1385. *Polypodium Dipteris*, Bl. Tamsui; Hancock, Morse (Henry No. 1,444).
1386. *Polypodium trifidum*, Don. S. Cape; Henry 1,241.
1387. *Polypodium Phymatodes*, L. Tamsui; Morse (Henry No. 1,490). S. Cape, Lambay Isle; Henry 912, 1,133, 1,213.
1388. **Polypodium Hancockii*, Baker, Jour. of Bot. 1885, p. 106. Tamsui; Hancock.
1389. *Polypodium lamaroides*, Kze.
1390. *Polypodium longissimum*, Blume. These two species are recorded from Formosa in the *Synopsis Filicum*.
1391. *Polypodium Meyenianum*, Schott. S. Cape; Henry 586.
1392. *Polypodium conjugatum*, Lam. Bankinsing; Henry 1,482.

NOTE: *Polypodium dimorphum*, Baker, is recorded by Baker from Formosa, collected by

- B. C. Henry. It was evidently collected in Hainan, and not in Formosa.
1393. *Gymnogramme Wrightii*, Hk. Tamsui; Morse (Henry No. 1,428). Bankinsing; Henry 91, 1,428 a.
1394. *Gymnogramme elliptica*, Baker. Tamsui; Oldham, Morse, Takow; Playfair, Henry. Bankinsing; Henry.
1395. *Gymnogramme javanica*, Desv. Recorded from Formosa.
1396. *Meniscium simplex*, Hk. Recorded from Formosa.
1397. *Meniscium triphyllum*, Sw. Bankinsing; Henry 1,561.
1398. *Antrophyum plantagineum*, Kaulf. Ape's Hill; Playfair, Henry.
1399. *Vittaria elongata*, Sw. S. Cape; Henry 654.
1400. *Drymoglossum carnosum*, Hk. Tamsui; Morse (Henry No. 1,406). The variety *abovatum*, Harringt. Jour. Lin. Soc. XV. 33, was found in Formosa by Dr. Steere.
1401. *Hemionitis cordata*, Rowb. Bankinsing; Henry 1,601.
1402. *Hemionitis Griffithii*, Hk. f. et I. Wilford.
1403. *Acrostichum latifolium*, Sw. S. Cape; Henry 1,360 (pro parte).
1404. *Acrostichum appendiculatum*, Willd. Bankinsing; Henry 81.
1405. *Acrostichum Harlandii*, Hk. Occurs in Formosa.
1406. *Acrostichum virens*, Wall. Occurs in Formosa.
1407. *Acrostichum bicuspe*, Hk. Occurs in Formosa.
1408. *Acrostichum aureum*, L. Occurs in Formosa.
1409. *Osmunda javanica*, Bl. Tamsui; Morse (Henry No. 1,431).
1410. *Lygodium scandens*, Sw. Tamsui; Morse (Henry No. 1,419).
1411. *Lygodium Japonicum*, Sw. Tamsui; Morse Takow; Playfair, Henry. Bankinsing, S. Cape; Henry 867.

1412. *Angiopteris evecta*, Hoffm. Bankinsing; Henry 1,499.
1413. *Ophioglossum pendulum*, L. S. Cape; Henry 1,348.
1414. *Lycopodium cernuum*, L. Tamsui; Morse (Henry Nos. 1,384, 1,454). Bankinsing, S. Cape; Henry 585, 1,559.
1415. *Lycopodium filiforme*, Roxb. S. Cape; Henry 595.
1416. *Lycopodium carinatum*, Desv. S. Cape; Henry 656.
1417. *Lycopodium squarrosum*, Forst. S. Cape; Henry 1,242.
1418. *Selaginella caulescens*, Spreng. Ape's Hill; Henry 797.
1419. *Selaginella involvens*, Spreng. Tamsui; Morse.
Ape's Hill; Playfair, Henry 1,096. This is the *Ch'üan-po*, 卷柏, a Chinese medicine. Specimens so labelled in the Pharmaceutical Museum, London, from Hankow and from a Chinese drugshop in Singapore are this species.
1420. *Selaginella canaliculata*, Baker. Tamsui; Morse (Henry No. 149). Bankinsing, S. Cape; Henry 27, 596, 601.
1421. *Selaginella plumosa*, Baker. Ape's Hill; Playfair Bankinsing; Henry 61, 1,560.
1422. *Selaginella flabellulata*, Spreng. S. Cape, Ape's Hill; Henry 610, 1,095.
1423. *Selaginella mongolica*, Rupr. Takow; Henry 1,963.
1424. *Selaginella pruriiflora*, Baker. Ape's Hill; Henry 1,917.
1425. *Selaginella* sp. S. Cape; Henry 606.
1426. *Psilotum triquetrum*, Sw. Ape's Hill; Playfair, Henry S. Cape, Bankinsing; Henry 1,282.
1427. *Marsilea quadrifoliata*, L. Common in stagnant water.
1428. *Equisetum debile*, Roxb. Takow; Playfair, Henry Referred to in the Gazetteer as 木賊草, or 接骨筒.

III.—SEAWEEDS.

Morse sent from Tamsui the following ;—

Henry No. 1762. *Suhria pristoides*, J. Arg.

Henry No. 1763. *Gelidium Amansii*, Lam. These two species are exported from Tamsui.

Henry No. 1938. *Porphyra*.

Henry No. 1936, 1,937. *Gasteromorpha intestinalis*, Link.

Henry No. 1935. *Phycoseris linza*, Ktze.

Playfair collected, on the Takow beach, *Turbinaria vulgaris* J. Arg. and *Sargassum vulgare*, L.



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2.10.10

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